

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

**RHONDA TERRELL,**

**Plaintiff,**

vs.

**L'ORÉAL USA, INC, L'ORÉAL USA  
PRODUCTS, INC., STRENGTH OF  
NATURE, LLC, SOFT  
SHEEN/CARSON INC.,**

**Defendants.**

Civil Action 22-CV-9008 (VEC)

**JURY TRIAL DEMAND**

**AMENDED COMPLAINT**

Plaintiff Rhonda Terrell, by her undersigned counsel, makes the following Amended Complaint (“Complaint”) against Defendants L’Oréal USA, Inc, L’Oréal USA Products, Inc. (“L’Oréal”), Strength of Nature, LLC (“Strength of Nature”), and Soft Sheen/Carson Inc. (“Soft Sheen”), (collectively, “Defendants”), alleging as follows:

**NATURE OF THE ACTION**

1. This action arises out of Rhonda Terrell’s diagnosis of uterine cancer. Ms. Terrell’s uterine cancer was directly and proximately caused by her regular and prolonged exposure to phthalates and other endocrine disrupting chemicals found in Defendants’ hair relaxer products.

2. Plaintiff brings this action against Defendants for claims arising from the direct and proximate result of Defendants, their directors, agents, heirs and assigns, and/or their corporate predecessors’ negligent, willful, and wrongful conduct in connection with the design, development, manufacture, testing, packaging, promoting, marketing, distribution, labeling,

and/or sale of the products, including those known as Optimum Care, Dark & Lovely, Soft & Beautiful, Motions and Crème of Nature (together, the “Products”).

**I. PARTIES**

3. Plaintiff is and at all times relevant to this action, was a citizen and resident of the State of Alabama with her place of residence being Guin, Alabama in Marion County.

4. Defendant L’Oréal USA, Inc. is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 575 Fifth Avenue, New York, New York 10017 and process may be served upon its registered agent, Corporation Service Company, 80 State Street, Albany, New York 12207.

5. Defendant L’Oréal USA Products, Inc. is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 10 Hudson Yards 347 10th Avenue New York, New York 10001 and process New York be served upon its registered agent, Corporation Service Company, 80 State Street, Albany, NY 12207.

6. Defendant Carson, Inc., d/b/a Soft Sheen, is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 2870 Peachtree Rd. Suite 464, Atlanta, Georgia 40405 and process may be served upon its registered agent, Justin Hill, 2870 Peachtree Rd., Suite 464, Atlanta, Georgia 40405.

7. Defendant Strength of Nature, LLC is, and at all times relevant to this action, was a corporation with its principal place of business and headquarters located at 64 Ross Road, Savannah, Georgia 31405, and process may be served upon its registered agent, Karen Sood, 6355 Peachtree Dunwoody Road, Atlanta, Georgia, 30328. Upon information and belief, Plaintiff alleges in good faith, at all times relevant to this action, Strength of Nature, LLC’s two members, Mario M. De La Guardia, Jr., is domiciled in Florida and is a citizen of Florida, having his true,

fixed and permanent home and principal establishment in the State of Florida; and Jack Wardlaw is domiciled in Georgia and is a citizen of Georgia having his true, fixed and permanent home and principal establishment in the State of Georgia.

8. At all pertinent times, all Defendants were engaged in the research, development, manufacture, design, testing, sale, and marketing of the Products, and introduced such products into interstate commerce with knowledge and intent that such products be sold in the State of New York.

9. At all times material hereto, Defendants developed, tested, assembled, manufactured, packaged, labeled, prepared, distributed, marketed, supplied, and/or sold the defective Products, including but not limited to:

- a. Motions;
- b. Dark & Lovely;
- c. Soft & Beautiful;
- d. Optimum Care;
- e. Crème of Nature.

10. Defendants' defective hair product was placed into the stream of interstate commerce and was used by the Plaintiff in or around the year 1994 through in or around 2012.

11. On or about November 11, 2019, Plaintiff was diagnosed with uterine cancer, a diagnosis caused by Plaintiff's exposure to chemicals in the Defendants' hair relaxer products.

## **II. JURISDICTION AND VENUE**

12. This Court has subject-matter jurisdiction over this case under 28 U.S.C. § 1332(a) because the amount in controversy exceeds \$75,000 and Plaintiff and Defendants are residents of different states.

13. This Court has personal jurisdiction over Defendants because Defendant Strength of Nature, LLC is headquartered and has their principal place of business in the State of New York.

14. Defendants have sufficient minimum contacts with New York and regularly conducts business within the State of New York such that exercising jurisdiction over Defendants would not offend due process or traditional notions of fair play and substantial justice.

15. Defendants' products were all sold either directly or indirectly, to members of the general public within the State of New York.

16. Venue is proper in this District under 28 U.S.C. § 1391(b)(1) because Defendants L'Oréal USA, Inc and L'Oréal USA Products, Inc. principal place of business is in the State of New York.

17. Venue is proper in this district pursuant to 28 U.S.C. §§1391(a) and (b)(2) and 1391(c)(2) because a substantial part of the events or omissions giving rise to the claims occurred in this judicial district, and the Defendants are subject to this Court's personal jurisdiction. Venue is also proper under 18 U.S.C. § 1965 (a) because Defendants transact substantial business in this district. Defendant has continuous and systematic contacts in the State of New York such as to render it at home in this jurisdiction.

18. Upon information and belief, at all relevant times, Defendants were present and transacted, solicited and conducted business in the State of New York through their employees, agents and/or sales representatives, and derived substantial revenue from such business. At all relevant times, Defendants expected or should have expected that their acts and omissions would have consequences within the United States and the State of New York.

### III. FACTS COMMON TO ALL COUNTS

#### A. Hair Straighteners and Relaxers

##### a. Market for Hair Straightening and Relaxing Products

19. Black people make up about 13 percent of the U.S. population, but by one estimate, African-American spending accounts for as much as 22 percent of the \$42 billion-a-year personal care products market, suggesting that they buy and use more of such products – including those with potentially harmful ingredients – than Americans as a whole.<sup>1</sup>

20. In an analysis of ingredients in 1,177 beauty and personal care products marketed to Black women, about one in twelve (12) was ranked highly hazardous on the scoring system of EWG's Skin Deep® Cosmetics Database, a free online resource for finding less-hazardous alternatives to personal care products. The worst-scoring products marketed to Black women were hair relaxers, and hair colors and bleaching products. Each of these categories had an average product score indicating high potential hazard.

21. In the U.S. alone, Black consumers spend over \$1 trillion each year, with a significant amount of that spending toward hair care products.

22. In 2020, the global Black Hair care market was estimated at \$2.5 billion, with the hair relaxer market alone estimated at \$718 million in 2021, with the expectation of growth to \$854 million annually by 2028.

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<sup>1</sup> Thandisizwe Chimurenga, *How Toxic is Black Hair Care?*, New America Media, Feb. 2, 2012, [americanamedia.org/2012/02/skin-deep-in-more-ways-than-one.php](http://americanamedia.org/2012/02/skin-deep-in-more-ways-than-one.php); *Personal Care Products Manufacturing Industry Profile*, Dun & Bradstreet First Research, August 2016, [www.firstresearch.com/Industry-Research/Personal-Care-Products-Manufacturing.html](http://www.firstresearch.com/Industry-Research/Personal-Care-Products-Manufacturing.html) (This report uses "Black" to describe not only people who identify as African-American, but Black people in the U.S. who come from the Caribbean or other areas. "African-American" is used only when a cited source specifies that term).

**b. History of Hair Relaxers in America**

23. In its natural or virgin state, afro-hair texture is characterized by coily, springing, zigzag, and s-curve curl patters; as well as its density, fullness, texture, and feel.<sup>2</sup>

24. Afro-textured hair “naturally grows up and out.”<sup>3</sup>

25. In Africa, hair was seen as a source of personal and spiritual power. As the highest point of the body and “most elevated part of the body, some communities believe[d] [their hair] connected them with the divine.”<sup>4</sup> For some, hair was the “conduit for spiritual interaction with God.”<sup>5</sup>

26. African hairstyles were also status symbols reflecting one’s “marital status, age, religion, and rank in society” and one’s tribe.<sup>6</sup> Warriors, kings, and queens wore braids to show their ranking in society.<sup>7</sup> The Wolof tribe in West Africa, wore braided styles when they went to war.<sup>8</sup>

27. Most styling was extremely intricate and involved days of labor. “Only the mad and mourning did not do their hair.”<sup>9</sup>

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<sup>2</sup> Patrick Obukowcho, *Hair Relaxers: Science, Design, and Application*, 26, 14 (2018).

<sup>3</sup> Ayana Byrd & Lori Tharps, *When Black Hair Is Against the Rules*, The New York Times, April 30, 2014, <https://www.nytimes.com/2014/05/01/opinion/when-black-hair-is-against-the-rules.html>.

<sup>4</sup> Nikki Fox, *6 Things Everyone Should Know About Black Hair History*, Odele, Feb., 22, 2021. <https://odelebeauty.com/blogs/the-rinse/black-hair-history-facts>.

<sup>5</sup> Rumeana Jahangir, *How Does Black Hair Reflect Black History?*, BBC News. May 31, 2015. <https://www.bbc.com/news/uk-england-merseyside-31438273.amp>.

<sup>6</sup> *History of Braids: More Than Just a Hairstyle*, Genesis Career College, <https://www.genesiscareer.edu/history-of-braids-more-than-just-a-hairstyle/>.

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> Hlonipha Mokoena, *From Slavery to Colonialism and School Rules, Navigating the History of Myths about Black Hair*, Quartz Africa, Fe., 24, 2018, <https://qz.com/africa/1215070/black-hair->

28. One of the first things slave masters did to enslaved people brought to American soil was cut their hair. This was a way to “break their spirit and make slaves easier to control.”<sup>10</sup> What was once a symbol of pride and symbolism became a tool for subordination and degradation. As such, hair cutting was also a common form of punishment.

29. The very nature of slavery involved working long hours in dire conditions. Enslaved people had “no time to care about one’s appearance or one’s hair.”<sup>11</sup> “Hair that was once a source of pride and expression of identity was often tucked away beneath cloth to cover rough, tangles tresses and shield them from hours spent toiling under the sun.”<sup>12</sup> The hair that was once an important spiritual and cultural symbol became tangled and matted.

30. White Americans did not see African or Black hair as beautiful. Instead they described it as “closer to sheep wool than human hair.”<sup>13</sup> African hair that was once considered an attractive feature became a source of shame, to be covered or cut.

31. In 1786, the Governor of Louisiana, Don Esteban Miro, passed the “Tignon Law” requiring Black women to wear a tignon (scarf) over their hair as a way of signifying they were members of the slave class, *even if they were free.*<sup>14</sup>

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myths-from-slavery-to-colonialism-school-rules-and-good-hair/.

<sup>10</sup> Brenda A. Randle, *I Am Not My Hair*, Race, Gender and Class, Volume 22, Number 1-2, 114 – 121 (2015).

<sup>11</sup> Nikki Fox, *6 Things Everyone Should Know About Black Hair History*, Odele, Feb., 22, 2021. <https://odelebeauty.com/blogs/the-rinse/black-hair-history-facts>.

<sup>12</sup> *Id.*

<sup>13</sup> Ayana Byrd & Lori Tharps, *When Black Hair Is Against the Rules*, The New York Times, April 30, 2014. <https://www.nytimes.com/2014/05/01/opinion/when-black-hair-is-against-the-rules.html>

<sup>14</sup> Nikki Fox, *6 Things Everyone Should Know About Black Hair History*, Odele, Feb., 22, 2021, <https://odelebeauty.com/blogs/the-rinse/black-hair-history-facts>.

32. “By requiring free Black women to wear the same hair covering, the governor was marking them as related to enslaved women rather than white women.”<sup>15</sup>

33. This law sent a direct signal to Black people that their hair held a symbol of inequality and was a sign of poverty regardless of their actual social status.

34. Because afro-textured hair was kinky and reflected African heritage rather than European ancestry afro-textured hair was a symbol of low social status.<sup>16</sup>

35. Slaves with lighter skin and less coily hair were favored to work in the home, a far less strenuous position than in the plantation fields.<sup>17</sup>

36. Texturism, the idea that “good hair” is equated with a straighter hair texture, was cemented into American culture during its period of chattel slavery. “Eurocentric beauty standards dictated that coily hair and dark skin were unattractive and inferior”; “lighter skinned and straighter haired slaves were favored and selected for more desirable positions in the house” as opposed to the fields.<sup>18</sup> Thus, “the texture of an enslaved person’s hair could determine their value and working conditions, which in turn might impact their overall health, comfort and chances for freedom[.]”<sup>19</sup> Naturally, Black men and women strived for a better life in America and were taught that the straighter and less kinky their hair was, the better of a life they could have. This fueled the desire for tools and products that could straighten Black hair texture.

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<sup>15</sup> *Fashionable Rebellion*, Women and the American Story, New York Historical Society Museum and Library, <https://wams.nyhistory.org/settler-colonialism-and-revolution/settler-colonialism/fashionable-rebellion/>.

<sup>16</sup> Brenda A. Randle, *I Am Not My Hair*, Race, Gender and Class, Volume 22, Number 1-2, 114 – 121 (2015).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

37. Gone were the days of African hairstyles and pride. “The goal of grooming the hair had morphed from the elaborate and symbolic designs of Africa into an imitation of White styles adapted to Black kinks and curls.”<sup>20</sup>

38. In an effort to obtain a better life, so many slaves would go to “dangerous lengths to straighten their hair.”<sup>21</sup>

39. Black, or afro-textured hair texture, can be manipulated into a straightened state with the use of hair tools and hair products. Prior to the invention of the chemical relaxer in 1900s, individuals would “press” afro-textured hair with metal hair tools such as the “hot comb.” Pressing combs or hot combs are metal hair tools that are first heated in a stove or ceramic heater, then pressed into hair strands to temporarily straighten them.<sup>22</sup>

40. The hot comb was first invented by Frenchman, Marcel Grateau who popularized the hair styling tool in Europe in the 1870s, including advertisements in catalogs of major department stores like Sears and Bloomingdales.<sup>23</sup> The hot comb was later modified by Madam C.J. Walker, a trailblazer in the development of black hair products, to be manufactured with wider comb teeth.<sup>24</sup> With Walker’s system, once the comb was heated a softening ointment was then applied for easier manipulation of black hair.<sup>25</sup>

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<sup>20</sup> Brenda A. Randle, *I Am Not My Hair*, Race, Gender and Class, Volume 22, Number 1-2, 114 – 121 (2015).

<sup>21</sup> Nikki Fox, *6 Things Everyone Should Know About Black Hair History*, Odele, Feb., 22, 2021. <https://odelebeauty.com/blogs/the-rinse/black-hair-history-facts>

<sup>22</sup> Jaclyn Peterson, *The Price of Beauty*, CTI Charlotte Teachers Institute Curriculum (2021).

<sup>23</sup> Henry Louis Gates, *Madam Walker, the First Black American Woman to Be a Self-Made Millionaire*, PBS 100 Amazing Facts About the Negro, <https://www.pbs.org/wnet/african-americans-many-rivers-to-cross/history/100-amazing-facts/madam-walker-the-first-black-american-woman-to-be-a-self-made-millionaire/> (last visited October 18, 2022).

<sup>24</sup> Cookie Lommel, *Madam C.J. Walker* 60 (1993)

<sup>25</sup> *Id.* at 62.

41. Today, afro-textured hair is still often straightened with a hot comb rather than with chemicals. However, pressed hair remains susceptible to “shrinkage.” Shrinkage is the process by which curly-kinky hair that has been temporarily straightened coils back into its natural state once the hair interacts with water, humidity, or perspiration.<sup>26</sup>, creating a shorter or fuller appearance.



### i. The Invention of the Chemical Relaxer

42. African American inventor Garrett Augustus Morgan, discovered and created a system that would permanently straighten afro-textured hair, eliminating the issue of “shrinkage.”

<sup>26</sup> *Id.*

43. In addition to being an inventor, Morgan was also a tailor. In the early 1900s, Morgan was repairing his sewing machines and wanted to find a way to polish the needles to stitch fabrics more smoothly.<sup>27</sup> He applied a chemical solution to the needles and wiped the solution off with a rag and later noticed that the “curly” fibers in the rag were straightened after exposure to the chemical.<sup>28</sup>

44. Morgan further tested the chemical on a dog with curly hair and eventually on his own hair. The chemical solution successfully straightened curly hair. He turned his formula into a gel-hair product, creating the G.A. Morgan Hair Refining Cream which was marketed in 1913.



<sup>27</sup> Patrick Obukowcho, Hair Relaxers: Science, Design, and Application 27 (2018).

<sup>28</sup> Mary N. Oluonye, Garrett Augustus Morgan: Businessman, Inventor, Good Citizen 28 (2008).



45. Morgan's invention paved the way for the alkaline relaxer and later development of additional chemical based permanent hair straightening products in the Black hair care market.<sup>29</sup>

#### a. Defendants' Marketing Efforts

46. In 1971, Dark and Lovely manufactured the first lye relaxer. The formula consisted of sodium hydroxide, water, petroleum jelly, mineral oils, and emulsifiers.<sup>30</sup>

47. In the 1970s, lye relaxer users and manufacturers noticed that the lye formula stripped proteins from the hair strand, resulting in the hair thinning and breaking.<sup>31</sup> As a result, Johnson and Johnson marketed the first "gentle" hair relaxer in 1981, which used milder chemicals such as potassium hydroxide and lithium hydroxide.<sup>32</sup>

<sup>29</sup> Patrick Obukowcho, *Hair Relaxers: Science, Design, and Application* 27 (2018).

<sup>30</sup> Cicely A. Richard, *This History of Hair Relaxers*, September 29, 2017 <https://classroom.synonym.com/the-history-of-hair-relaxers-12078983.html>.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

48. Over time, Soft & Beautiful and other chemical relaxer manufacturers developed herbal and botanical hair relaxer formulas.<sup>33</sup>

49. Today, Defendants market their hair relaxer products to African American customers across the United States, and the world, reinforcing the same historical Eurocentric standards of beauty. Defendant's marketing scheme relies heavily relying on branding and slogans that reinforce straight hair as the standard.<sup>34</sup>

50. Defendant Strength of Nature, LLC markets its Soft & Beautiful and Motions relaxer products, depicting beautiful, happy, fair-skinned African American women with straight hair in seeming perpetual motion.<sup>35</sup>



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<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*



51. Defendant Strength of Nature, LLC also carries a TCB Naturals line that promises “silky smooth relaxed hair”

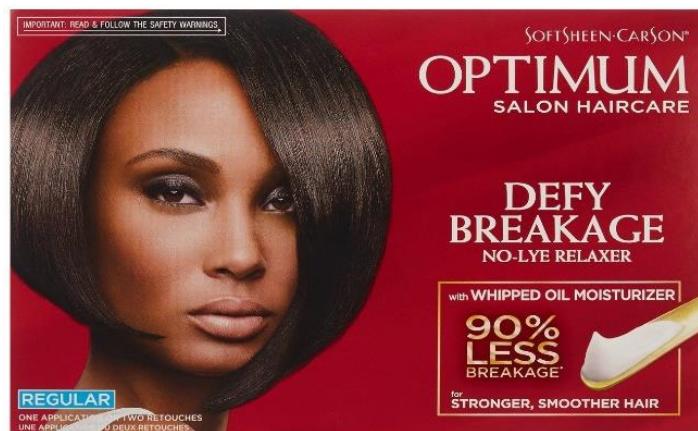
52. Defendant Strength of Nature, LLC’s Just for Me brand specifically targets young Black girls with promises of “perfect straightness,” grooming the next generation of lifetime consumers of relaxers containing endocrine disrupting chemicals.



53. Defendant Namaste Laboratories, Inc. also targets young Black girls with its Olive Oil Girls line.



54. Finally, Defendant L'Oréal depicts a Black woman with straight hair on each of its Dark and Lovely and Optimum brands of relaxer product.



**a. Chemical Relaxer Use**

55. Hair relaxers are classified as creams or lotions which are specifically marketed to Black and Brown women to “tame” their ethnic hair by making it smoother, straighter, and easier to manage on a daily basis.

56. Hair relaxing, or lanthionization, can be performed by a professional cosmetologist in a salon or barbershop, or at home with at-home relaxer kits designed for individual use. These home kits are sold in grocery, drug, and beauty supply stores in urban and rural cities throughout the United States.

57. Relaxers are applied to the base of the hair shaft and left in place for a “cooking” interval, during which the relaxer alters the hair’s texture by purposefully damaging the hair’s natural protein structure. The effect of this protein damage straightens and smooths the hair. After a period of weeks (4 – 8 weeks on average), depending on the hair’s natural growth rate, the treated portion of the hair grows away from the scalp as new growth sprouts from the roots, requiring additional relaxer treatment to smooth the roots. These additional treatments are colloquially referred to in the community as “re-touches”, resulting in women relaxing their new growth every four to eight weeks on average, usually for decades.

58. Hair relaxers can, and often do, cause burns and lesions in the scalp, facilitating entry of hair relaxer constituents into the body. The main ingredient of “lye” relaxers is sodium hydroxide; no-lye relaxers contain calcium hydroxide and guanidine carbonate, and “thio” relaxers contain thioglycolic acid salts. No-lye relaxers are advertised to cause fewer scalp lesions and burns than lye relaxers, but there is little evidence to support this claim.

59. In some studies, up to 90% of black and brown women have used hair relaxants and straighteners, which is more commonplace for these women than for any other race. Hair products such as relaxers contain hormonally active and carcinogenic compounds, such as phthalates, known to cause endocrine disruption, which are not required to be listed separately as ingredients and are often broadly lumped into the “fragrance” or “perfume” categories. Relaxer habits usually begin in formative childhood years, and adolescence is likely a period of enhanced susceptibility to debilitating conditions resulting from exposure to these chemicals.<sup>36</sup>

60. In the 1990s, the first relaxer product for young Black girls, Just for Me™, hit the market with a catchy advertising jingle that captured consumer attention.<sup>37</sup> It soon became one of the most popular straightening treatments, touting a no-lye formula designed to be gentler for children’s sensitive scalps.

61. Once relaxer use begins in childhood, it usually becomes a lifetime habit. The frequency of scalp burns with relaxer application can increase the risk of permanent and debilitating diseases associated with long-term exposure to endocrine-disrupting chemicals.

62. The reasons for Black women’s use and dependence upon hair straightening products are associated with various factors, including (1) slavery and internalization of acceptable beauty norms, (2) media and advertisements, (3) assimilation and economic security, (4) ease of hair maintenance, and (5) culture.<sup>38</sup>

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<sup>36</sup> Patrick Obukowcho, *Hair Relaxers: Science, Design, and Application* 27 (2018).

<sup>37</sup> Dana Oliver, *The '90s Just For Me Hair Relaxer Commercials Song Is Stuck In Our Heads*, HuffPost, Feb., 1, 2014. [https://www.huffpost.com/entry/just-for-me-hair-relaxer-commercial-song\\_n\\_4689981](https://www.huffpost.com/entry/just-for-me-hair-relaxer-commercial-song_n_4689981)

<sup>38</sup> Chanel Donaldson, *Hair Alteration Practices Amongst Black Women and the Assumption of Self-Hatred*, Applied Psychology Opus, [https://wp.nyu.edu/steinhardt-appsych\\_opus/hair-alteration-practices-amongst-black-women-and-the-assumption-of-self-hatred/](https://wp.nyu.edu/steinhardt-appsych_opus/hair-alteration-practices-amongst-black-women-and-the-assumption-of-self-hatred/)

63. In a culture where Black women feel reduced to a lower standard of beauty, these factors impact women of color's decisions to begin and continue using products to alter the natural state of their hair, many times as a protective mechanism against racial discrimination. In the Dove CROWN Study for girls (2021) conducted by JOY Collective, the following statistics were discovered<sup>39</sup>:

- a. 100% of Black elementary school girls in majority-white schools who report experiencing hair discrimination state they experience the discrimination by the age of ten (10).
- b. 86% of Black teens who experience discrimination state they have experienced discrimination based on their hair by the age of twelve (12).
- c. 66% of Black girls in majority-white schools report experiencing hair discrimination compared to 45% of Black girls in all school environments.
- d. 53% of Black mothers, whose daughters have experienced hair discrimination, say their daughters experienced the discrimination as early as five (5) years old.
- e. 47% of Black mothers report having experienced discrimination related to their hair.
- f. Trauma from these experiences cause girls to miss days from school; teenage Black girls are missing a week of school per year due to hair dissatisfaction.

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<sup>39</sup> The CROWN Act was created in 2019 by Dove and the CROWN Coalition, in partnership with then State Senator Holly J. Mitchell of California, to ensure protection against discrimination based on race-based hairstyles by extending statutory protection to hair texture and protective styles such as braids, locks, twists, and knots in the workplace and public schools. <https://www.thecrownact.com/>

- g. While 90% of Black girls believe their hair is beautiful, the microaggressions and discrimination she endures has an impact on how she sees herself.
- h. Black women are 1.5 times more likely to be sent home from the workplace because of their hair.
- i. Black women are 89% more likely than white women to agree with this statement, “I have to change my hair from its natural state to fit in at the office.”

64. The CROWN Act of 2021 is a legislative bill introduced in both houses of Congress to address discrimination against protective hair styles worn predominantly by women of color. While the bill has not yet passed fully on a federal level, eighteen states have signed a version of the bill into state law. Unless and until the CROWN Act makes hair discrimination illegal in every state, teenagers and women of color continue to face discriminatory practices related to their hair choices, with relaxing and straightening their hair being a defensive, yet dangerous and toxic option.

65. **Regulatory Framework**

66. The law does not require cosmetic products and ingredients, other than color additives, to have FDA approval before they go to market. But there are laws and regulations that apply to cosmetics placed into the market. The two most important laws pertaining to cosmetics marketed in the United States is the Federal Food Drug and Cosmetic Act (“FD&C Act”) and the Fair Packaging and Labeling Act (“FPLA”).

67. The FD&C Act expressly prohibits the marketing of “adulterated” or “misbranded” cosmetics in interstate commerce.

68. Adulteration refers to a violation involving product composition whether it results from ingredients, contaminants, processing, packaging shipping or handling.

69. Under the FD&C Act a cosmetic is adulterated if: 1) it bears or contains any poisonous or deleterious substance causing injury to the product user and 2) if its container is composed in whole or in part, of any poisonous or deleterious substance which may render the contents injurious to health.

70. Misbranding refers to violations involving improperly labeled or deceptively packaged products.

71. Under the FD&C Act, a cosmetic is misbranded if 1) labeling is false or misleading, 2) the label does not include all required information, 3) required information is not prominent and conspicuous, 4) the packaging and labeling is in violation of an applicable regulation issued pursuant to section 3 and 4 of the Poison Prevention Packaging Act of 1970.<sup>40</sup>

72. Under U.S. law, cosmetic manufacturers are not required to submit their safety data to the FDA. However, it is against the law to put an ingredient in a cosmetic that makes the cosmetic harmful when used as intended.<sup>41</sup> An example is methylene chloride because it causes cancer in animals and is likely to be harmful to human health, too.<sup>42</sup>

73. On May 19, 2022, the FDA issued a rule to amend its food additive regulations to no longer provide for most previously-authorized phthalates to be used as food additives because these uses have been abandoned by industry.<sup>43</sup> The FDA revoked authorizations for the food contact use of 23 phthalates and two other substances used as plasticizers, adhesives, defoaming agents, lubricants, resins, and slimicides.<sup>44</sup>

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<sup>40</sup> Food and Drug Administration Cosmetic Act § 602 (1938).

<sup>41</sup> *Prohibited & Restricted Ingredients in Cosmetics*, U.S. Food and Drug Administration, <https://www.fda.gov/cosmetics/cosmetics-laws-regulations/prohibited-restricted-ingredients-cosmetics>

<sup>42</sup> 21 Code of Federal Regulations § 700.19.

<sup>43</sup> § 87 FR 31080

<sup>44</sup> *Phthalates in Food Packages and Food Contact Applications*, U.S. Food and Drug

74. Companies and/or individuals who manufacture or market cosmetics have a legal responsibility and duty to ensure the safety of their own products. Neither the law nor FDA regulations require specific tests to demonstrate the safety of individual products or ingredients, and the law also does not require cosmetic companies to share their safety information with the FDA.

75. The FDA has consistently advised manufacturers to use whatever testing is necessary to ensure the safety of products and ingredients, which may be substantiated through (a) reliance on already available toxicological test data on individual ingredients and on product formulations that are similar in composition to the particular cosmetic and (b) performance of any additional toxicological and other tests that are appropriate in light of such existing data and information.<sup>45</sup>

76. Except for color additives and ingredients prohibited or restricted by regulation, a manufacturer may use any ingredient in the formulation of a cosmetic, provided that (1) the ingredient and the finished cosmetic are safe under labeled or customary conditions of use, (2) the product is properly labeled, and (3) the use of the ingredient does not otherwise cause the cosmetic to be adulterated or misbranded under the laws the FDA enforces.<sup>46</sup>

77. With respect to whether the product is properly labeled, Title 21 of the Code of Federal Regulations defines the establishment of warning statements related to cosmetic products. Section 740.1 states that “[t]he label of a cosmetic product shall bear a warning statement

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Administration, <https://www.fda.gov/food/food-ingredients-packaging/phthalates-food-packaging-and-food-contact-applications>

<sup>45</sup> *FDA Authority Over Cosmetics: How Cosmetics Are Not FDA-Approved, but Are FDA-Regulated*, U.S. Food and Drug Administration, Mar., 3, 2005, <https://www.fda.gov/cosmetics/cosmetics-laws-regulations/fda-authority-over-cosmetics-how-cosmetics-are-not-fda-approved-are-fda-regulated>

<sup>46</sup> *Id.*

whenever necessary or appropriate to prevent a health hazard that may be associated with the product.” (emphasis added). This warning directive directly correlates with the broad authority of manufacturers over their own cosmetic products to ensure that products are safe under labeled or customary conditions of use, properly labeled, and not adulterated or misbranded under FDA laws.

78. In short, under the current regulatory framework in the United States, it is incumbent upon the manufacturers of cosmetic products, and them alone, to assess the safety and efficacy of their products, and to warn consumers anytime a health hazard may be associated with their products. Here, a wealth of scientific information is available regarding long-term use of hair relaxers, straighteners and hair dyes as containing certain endocrine-disrupting chemicals, which should have alerted manufacturers of these products to the specific and dangerous harms associated with their products when used as intended, particularly in women of color.

#### 79. **Endocrine-Disrupting Chemicals**

80. The endocrine system is indispensable for life and influences nearly every cell, organ, and processes within the body.<sup>47</sup> The endocrine system regulates all biological processes in the body from conception through adulthood, including the development of the brain and nervous system, the growth and function of the reproductive system, as well as the metabolism and blood sugar levels.<sup>48</sup>

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<sup>47</sup> *Endocrine System: The Endocrine System Includes The Thyroid, Adrenals, and the Pituitary Gland*, Science Direct, <https://www.sciencedirect.com/topics/psychology/endocrine-system>

<sup>48</sup> *Endocrine Disruption*, United States Environmental Protection Agency, Mar., 7, 2022, <https://www.epa.gov/endocrine-disruption/what-endocrine-system>

81. The endocrine system is a tightly regulated system made up of glands that produce and release precise amounts of hormones that bind to receptors located on specific target cells throughout the body.<sup>49</sup>

82. Hormones, such as estrogen, testosterone, progesterone, and androgen, are chemical signals that control or regulate critical biological processes.<sup>50</sup>

83. When a hormone binds to a target cell's receptor, the receptor carries out the hormone's instructions, the stimulus, and either switches on or switches off specific biological processes in cells, tissues, and organs.<sup>51</sup>

84. The precise functioning of the endocrine system is vital to maintain hormonal homeostasis, the body's natural hormonal production and degradation. A slight variation in hormone levels can lead to significant adverse-health effects, including reproductive impairment and infertility, cancer, cognitive deficits, immune disorders, and metabolic syndrome.<sup>52</sup>

85. Endocrine disrupting chemicals ("EDCs") are chemicals, or chemical mixtures, that interfere with the normal activity of the endocrine system.

86. EDCs can act directly on hormone receptors as mimics or antagonists, or on proteins that control hormone delivery.<sup>53</sup>

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<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*; Michele La Merrill, et al., *Consensus on the Key Characteristics of Endocrine-Disrupting Chemicals as a Basis for Hazard Identification*, *Nature Reviews Endocrinol*, Nov., 12, 2019, <https://www.nature.com/articles/s41574-019-0273-8>

<sup>53</sup> Evanthia Diamanti-Kandarakis, et al., *Endocrine-Disrupting Chemicals: An Endocrine Society Scientific Statement*, *Endocrine Reviews*, June 30, 2009, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2726844/>

87. EDCs disrupt the endocrine system and interfere with the body's hormonal homeostasis in various ways.

88. EDCs can cause the body to operate as if there were a proliferation of a hormone and thus over-respond to the stimulus or respond when it was not supposed to by mimicking a natural hormone.

89. EDCs can increase or decrease the levels of the body's hormones by affecting the production, degradation, and storage of hormones.

90. EDCs can block the hormone's stimulus through inducing epigenetic changes, modifications to DNA that regulate whether genes are turned on or off or altering the structure of target cells' receptors.<sup>54</sup>

91. EDCs are known to cause to numerous adverse human health outcomes including endometriosis, impaired sperm quality, abnormalities in reproductive organs, various cancers, altered nervous system and immune function, respiratory problems, metabolic issues, diabetes, obesity, cardiovascular problems, growth, neurological and learning disabilities.<sup>55</sup>

92. EDCs that mimic the effects of estrogen in the body may contribute to disease risk because exposure to estrogen, endogenously and exogenously, is associated with breast cancer, and a woman's lifetime risk of developing the disease increases with greater duration and cumulative exposure.

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<sup>54</sup> Luis Daniel Martínez-Razo, et al., *The impact of Di-(2-ethylhexyl) Phthalate and Mono(2-ethylhexyl) Phthalate in placental development, function, and pathophysiology*, Environment International, January 2021, <https://www.sciencedirect.com/science/article/pii/S0160412020321838?via%3Dihub>

<sup>55</sup> *Endocrine Disrupting Chemicals (EDCs)*, Endocrine Society, Jan., 24, 2022, <https://www.endocrine.org/patient-engagement/endocrine-library/edcs#:~:text=EDCs%20can%20disrupt%20many%20different,%2C%20certain%20cancers%2C%20respiratory%20problems%2C>

93. Natural and synthetic EDCs are present in hair products under the guise of “fragrance” and “perfumes”, and thus enter the body when these products are exogenously applied to the hair and scalp. Studies exploring this issue have thus far classified EDCs as estrogens, phthalates, and parabens.

94. Indeed, numerous studies spanning more than two decades have demonstrated the adverse impact EDCs including Di-2-ethylhexylphthalate have on the male and female reproductive systems such as inducing endometriosis, abnormal reproductive tract formation, decreased sperm counts and viability, pregnancy loss, and abnormal puberty onset.<sup>56</sup>

a. **Phthalates**

95. Phthalates are used in a variety of cosmetics and personal care products. Phthalates are chemical compounds developed in the last century that are used to make plastics more durable. These colorless, odorless, oily liquids also referred to as “plasticizers” based on their most common uses.

96. Phthalates also function as solvents and stabilizers in perfumes and other fragrance preparations. Cosmetics that may contain phthalates include nail polishes, hair sprays, aftershave lotions, cleansers, and shampoos.

97. At all relevant times herein, phthalates were used in Defendants’ products.

98. Phthalates are chemicals used to improve the stability and retention of fragrances and to help topical products stick to and penetrate skin and hair.<sup>57</sup>

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<sup>56</sup> Hee-Su Kim, et al., *Hershberger Assays for Di-2-ethylhexyl Phthalate and Its Substitute Candidates*, Dev Reproduction, Mar., 22, 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5915764/>.

<sup>57</sup> Olivia Koski & Sheila Hu, Fighting Phthalates, National Resources Defense Council, April 20, 2022, <https://www.nrdc.org/stories/fighting-phthalates>

99. Phthalates are known EDCs which interfere with natural hormone production and degradation and are detrimental to human health.<sup>58</sup>

100. Phthalates are commonly used by cosmetics and hair care product manufacturers to make fragrances and colors last longer, and to make hair more flexible after product is applied, among other uses.

101. Phthalates can be found in most products that have contact with plastics during producing, packaging, or delivering. Despite the short half-lives in tissues, chronic exposure to phthalates will adversely influence the endocrine system and functioning of multiple organs, which has negative long-term impacts on the success of pregnancy, child growth and development, and reproductive systems in both young children and adolescents. Several countries have established restrictions and regulations on some types of phthalates.<sup>59</sup>

102. Phthalates are a series of chemical substances, which are mainly used as plasticizers added to polyvinyl chloride (“PVC”) plastics for softening effects. Phthalates can potentially disrupt the endocrine system.<sup>60</sup>

103. Defendants’ products referenced herein contain phthalates, including Di-2-ethylhexylphthalate.

104. Under the authority of the Fair Packaging and Labeling Act (“FPLA”), the FDA requires an ingredient declaration on cosmetic products sold at the retail level to consumers.

105. However, the regulations do not require the listing of the individual fragrance or flavor, or their specific ingredients, meaning phthalates evade listing when combined with a

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<sup>58</sup> Yufei Wang & Haifeng Qian, *Phthalates and Their Impacts on Human Health*, Healthcare (Basel) 9, 603, May 9, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

fragrance. As a result, consumers, including Plaintiff, are not able to determine from the ingredient declaration on the label if phthalates were present in a fragrance used in the herein referenced hair products used by the Plaintiff and placed into the stream of commerce by Defendants.

106. Since 1999, the Centers for Disease Control (“CDC”) have found phthalates in individuals studied for chemical exposure.<sup>61</sup> Neither IARC nor NTP has evaluated DEHP with respect to human carcinogenicity.

a. **Di-2-ethylhexylphthalate**

107. Di-2-ethylhexylphthalate<sup>62</sup> (“DEHP”) is a highly toxic manufactured chemical<sup>63</sup> that is not found naturally in the environment.<sup>64</sup>

108. DEHP belongs to the family of chemicals called phthalates.<sup>65</sup>

109. DEHP was first used in 1949 in United States and has been the most abundantly used phthalate derivative in the Twentieth century.<sup>66</sup>

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<sup>61</sup> *Biomarker Groups*, National Report on Human Exposure to Environmental Chemicals, Center for Disease Control, [https://www.cdc.gov/exposurereport/pdf/Biomarker\\_Groups\\_Infographic-508.pdf](https://www.cdc.gov/exposurereport/pdf/Biomarker_Groups_Infographic-508.pdf)

<sup>62</sup> Also known as Bis(2-ethylhexyl) phthalate.

<sup>63</sup> Sai Rowdhwal & Jiaxiang Chen, *Toxic Effects of Di-2-ethylhexyl Phthalate: An Overview*, Biomed Research International, Feb., 22, 2018 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5842715/#:~:text=DEHP%20is%20noncovalently%20bound%20to,an%20plastic%20waste%20disposal%20sites>.

<sup>64</sup> *Toxicological Profile for Di(2-Ethylhexyl) Phthalate (DEHP)*, U.S. Dept of Health and Human Services, January 2022, <https://www.atsdr.cdc.gov/ToxProfiles/tp9.pdf> (DEHP is listed as hazardous pollutants under the Clean Air Act.; DEHP is on the Proposition 65 list because it can cause cancer and birth defects or other reproductive harm).

<sup>65</sup> *Di(2-ethylhexyl) phthalate (DEHP)*, Proposition 65, California. Gov, <https://www.p65warnings.ca.gov/fact-sheets/di2-ethylhexylphthalate-dehp>

<sup>66</sup> Pinar Erkekoglu & Belma Kocer-Gumusel, *Environmental Effects of Endocrine-Disrupting Chemicals: A Special Focus on Phthalates and Bisphenol A*, Environmental Health Risk, June

110. DEHP does not covalently bind to its parent material. Non-covalent bonds are weak and, as a result, DEHP readily leaches into the environment increasing human exposure.<sup>67</sup>

111. Humans are exposed to DEHP through ingestion, inhalation, and dermal exposure for their lifetimes, including intrauterine life.<sup>68</sup>

112. The Agency for Toxic Substances and Disease Registry (“ATSDR”) estimates that the range of daily human exposure to DEHP is 3–30 µg/kg/day.<sup>69</sup>

113. The no-observed-adverse-effect level for DEHP to humans is 4.8 mg/kg bodyweight/day and the tolerate daily intake (TDI) is 48 µg/kg bodyweight.<sup>70</sup>

| Endpoint          | Cancer (NSRL) |            | Developmental and Reproductive Toxicity (MADL) |            |
|-------------------|---------------|------------|--|------------|
| Route of Exposure | Oral          | Inhalation | Oral   | Inhalation |
| <b>DEHP</b>       | 310 µg/day    | N.C.       | 410 µg/day                                     | N.C.       |

Source: OEHHA’s safe harbor levels for TDCIPP, DBP, DEHP, benzene, and formaldehyde. N.C. = not calculated by OEHHA as of August 2020.<sup>71</sup>

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16, 2016, <https://www.intechopen.com/chapters/50234>

<sup>67</sup> Katelyn H. Wong & Timur Durrani, *Exposures to Endocrine Disrupting Chemicals in Consumer Products – A Guide for Pediatricians*, Current Problems in Pediatric and Adolescent Health Care, Science Direct, May 2017, <https://www.sciencedirect.com/science/article/pii/S1538544217300822?via%3Dihub>

<sup>68</sup> Schmidt, Juliane-Susanne, et al., *Effects of Di(2-ethylhexyl) Phthalate (DEHP) on Female Fertility and Adipogenesis in C3H/N Mice*, Environmental Health Perspective, May 15, 2012, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3440070/>

<sup>69</sup> Hannon, Patrick et. al., *Daily Exposure to Di(2-ethylhexyl) Phthalate Alters Estous Cyclicity and Accelerates Primordial Follicle Recruitment Potentially Via Dysregulation of the Phosphatidylinositol 3-Kinase Signaling Pathway in Adult Mice*, Biology of Reproduction Volume 90, Issue 6, June 2014, 136, 1–11 <https://academic.oup.com/biolreprod/article/90/6/136,%201-11/2514356>

<sup>70</sup> Yufei Wang & Haifeng Qian, *Phthalates and Their Impacts on Human Health*, Healthcare (Basel) 9(5):603, May 18, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

<sup>71</sup> Aalekhya Reddam & David Volz, *Inhalation of two Prop 65-listed Chemicals Within Vehicles May Be Associated with Increased Cancer Risk*, Environment International Volume 149, April 2021, <https://www.sciencedirect.com/science/article/pii/S016041202100026X>

114. When DEHP enters in the human body, it breaks down into specific metabolites. The toxicity of DEHP is mainly attributed to its unique metabolites which include the primary metabolite, mono-(2-ethylhexyl)phthalate (MEHP), and secondary metabolites, mono-(2-ethyl-5-hydroxyhexyl)phthalate (MEHHP), and mono-(2-ethyl-5-oxohexyl)29hthalate (MEOHP).<sup>72</sup>

115. DEHP and its metabolites are known to cause significant adverse-health effects including but not limited to: endometriosis, developmental abnormalities, reproductive dysfunction and infertility,<sup>73</sup> various cancers, and metabolic syndrome within the human population and their future children.<sup>74</sup>

116. Most of the available studies on the health effects of DEHP in laboratory animals used oral administration, with a few inhalation studies and only two dermal exposure studies identified.<sup>75</sup>

117. The results of the selected animal studies, along with limited human data, suggest potential associations between DEHP exposure and the following health outcomes:

- a) **Reproductive effects.** Epidemiological studies suggest a potential association between DEHP exposure and decreased serum testosterone and altered sperm parameters in males. Available studies on fertility effects in humans do not indicate an association between

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<sup>72</sup> Saab, Yolande, et. al., *Risk Assessment of Phthalates and Their Metabolites in Hospitalized Patients: A Focus on Di- and Mono-(2-ethylhexyl) Phthalates Exposure from Intravenous Plastic Bags*. Toxics, 10(7), 357, <https://pubmed.ncbi.nlm.nih.gov/35878262/>; Ishtaf Sheikh, et. at., *Endocrine disruption: In silico perspectives of interactions of di-(2-ethylhexyl)phthalate and its five major metabolites with progesterone receptor*. BMC Structural Biology Volume 16, Suppl 1, 16, Sept., 30, 2016, <https://bmctructbiol.biomedcentral.com/articles/10.1186/s12900-016-0066-4> (Other secondary metabolites include mono(2-ethyl-5-carboxypentyl)phthalate (5-cx-MEPP) and mono[2-(carboxymethyl)hexyl]phthalate (2-cx-MMHP)).

<sup>73</sup> Richardson, Kadeem et. al., *Di(2-ethylhexyl) Phthalate (DEHP) Alters Proliferation and Uterine Gland Numbers in the Uterine of Adult Exposed Mice*, Reproductive Toxicology, 77, 70-79, <https://pubmed.ncbi.nlm.nih.gov/29458081/>

<sup>74</sup> Yufei Wang & Haifeng Qian, *Phthalates and Their Impacts on Human Health*, Healthcare (Basel) 9, 603, May 9, 2021, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8157593/>

<sup>75</sup> *Chapter 2: Health Effects*, Toxicological profile for Di(2-ethylhexyl) phthalate (DEHP) (2001), <https://www.atsdr.cdc.gov/ToxProfiles/tp9-c2.pdf>

DEHP exposure and infertility. In animals, the available oral and inhalation studies provide evidence that the male reproductive system, particularly the testes, is susceptible to DEHP toxicity. Evidence from animal studies indicates decreased male and female fertility at high oral doses.

b) **Developmental effects.** Epidemiological studies suggest a potential association between reduced AGD and testicular decent in male infants and prenatal DEHP exposure. In addition, human epidemiological studies provide mixed results for potential relationships between exposure to DEHP and preterm birth, early puberty, and delayed mental and psychomotor development in children. Studies in animals indicate that altered glucose homeostasis and the development of the reproductive system following early life exposure is a particularly sensitive target of DEHP toxicity.

118. The global consumption of DEHP was estimated at 3.07 million tons (Global demand for plasticizers continues to rise). The estimated global market of phthalates in 2020 is expected to reach 10 billion USD and would still be widely used in plasticizers.<sup>76</sup>

119. Human epidemiological studies have shown a significant association between phthalates exposures and adverse reproductive outcomes in both women and men.<sup>77</sup>

120. Evidence found that DEHP was significantly related to insulin resistance and higher systolic blood pressure and the reproduction system problems, including earlier menopause, low birth weight, pregnancy loss, and preterm birth.<sup>78</sup>

121. When it comes to the impacts on children, epidemiological studies about phthalates toxicity focused on pregnancy outcomes, genital development, semen quality, precocious puberty, thyroid function, respiratory symptoms, and neurodevelopment.<sup>79</sup>

122. Since the turn of the century, restrictions on phthalates have been proposed in many Asian and western countries. In 2008, the US Congress announced the Consumer Protection

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<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> N.M. Grindler, et al., *Exposure to Phthalate, an Endocrine Disrupting Chemical, Alters the First Trimester Placental Methylome and Transcriptome in Women*, *Scientific Reports* Volume 8, April 17, 2018, <https://doi.org/10.1038/s41598-018-24505-w>

<sup>79</sup> *Id.*

Safety Act (CPSA) that permanently banned the products, especially children's toys and childcare articles, containing DEHP, DBP, and BBP at levels >0.1% by weight.<sup>80</sup>

## **B. Injuries Associated with Exposure to Endocrine Disrupting Chemicals**

### **a. Uterine Cancer**

123. Uterine cancer is associated with phthalate metabolites found in chemical hair straightening and hair relaxer products.

124. Uterine cancer<sup>81</sup> is among the more common (the fourth most common) cancers in women in developed countries,<sup>82</sup> accounting for about 3% of all new cancer cases.<sup>83</sup>

125. Every year around 65,000 females develop uterine cancer in the USA alone, out of which more than 90% is of endometrial origin. It is commonly diagnosed in the seventh decade, with the mean age being 61 years.<sup>84</sup>

126. The incidence in Black women is twice that of White women.<sup>85</sup> In addition, Black women with uterine cancer carry a poorer prognosis as compared to White women.<sup>86</sup>

127. Though death rates from other cancers in women have declined in recent years, death rates for uterine cancer have increased by more than 100% in the last 20 years.<sup>87</sup>

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<sup>80</sup> Consumer Product Safety Improvement Act of 2008, H.R. 4040, 110<sup>th</sup> Cong. (2008), <https://www.congress.gov/110/plaws/publ314/PLAW-110publ314.pdf>

<sup>81</sup> Otherwise known as endometrial carcinoma.

<sup>82</sup> Unaiza Faizan & Vijayadershan Muppidi, *Uterine Cancer*, In: StatPearls, National Library of Medicine, Jan 2022, <https://www.ncbi.nlm.nih.gov/books/NBK562313/>

<sup>83</sup> *Cancer Stat Facts: Uterine Cancer*, National Cancer Institute, <https://seer.cancer.gov/statfacts/html/corp.html>

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> Joel Sorosky, *Endometrial Cancer*, *Obstetrics & Gynecology* Volume 120, 383-97, Aug. 2012, <https://pubmed.ncbi.nlm.nih.gov/22825101/>

<sup>87</sup> Linda Duska, et al., *Treatment of Older Women With Endometrial Cancer: Improving Outcomes With Personalized Care*, American Society Clinical Oncology Educational Book,

128. Indeed, new cases of uterine cancer have increased by 0.6 percent per year from 2010 to 2019, and death rates have risen an average of 1.7 percent per year during the same time frame.<sup>88</sup>

129. A groundbreaking study recently found that women who use chemical hair straightening, or relaxing products have a higher risk contracting of uterine cancer.<sup>89</sup>

130. The study found that an estimated 1.64% of women who never used chemical hair straighteners or relaxers would go on to develop uterine cancer by the age of 70; but for frequent users, that risk more than doubles, increasing to 4.05%.<sup>90</sup>

131. These risks are more substantial among Black women, who use hair straightening and hair relaxing products the most, including Defendants' products.

a. **Breast Cancer**

132. Breast cancer is associated with phthalate metabolites found in chemical hair straightening and hair relaxer products.

133. In Black women, breast cancer is diagnosed earlier and tends to be more aggressive, resulting in Black women having the highest rates of death due to this disease than any other ethnic/racial group.

134. Academic communities have begun to explore the potential role of environmental exposure to estrogen and EDCs. A growing body of evidence links: (1) environmental estrogen

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35:164-74, 2016, <https://pubmed.ncbi.nlm.nih.gov/27249697/>

<sup>88</sup> Jack J. Lee, *Rising Endometrial Cancer Rate Spur New Approaches to Prevention*, National Cancer Institute: Division of Cancer Prevention, June 28, 2022, <https://prevention.cancer.gov/news-and-events/blog/rising-endometrial-cancer>

<sup>89</sup> Che-Jung Chang, et al., *Use of Straighteners and Other Hair Products and Incident Uterine Cancer*, Journal of the National Cancer Institute, Oct., 17, 2022, <https://pubmed.ncbi.nlm.nih.gov/36245087/>

<sup>90</sup> *Id.*

and EDC exposures to breast cancer risk, (2) the presence of such chemicals in personal care products, including hair products, and (3) the use of certain hair products with potential breast cancer risk in African Americans.<sup>91</sup>

135. Hormonal imbalances and over-activation of the estrogen, progesterone, and epidermal receptors are associated with development and progression of breast cancer.<sup>92</sup>

136. Numerous studies have shown that increased breast cancer mortality, poor prognosis, and the recurrence of breast cancer are associated with the higher urinary concentrations of DEHP and its metabolite, MEHP.<sup>93</sup> Studies have also shown that exposure to DEHP increases invasive properties of breast cells.<sup>94</sup>

137. Hormone receptor-negative breast cancer means that cancer cells do not grow in response to the hormones estrogen or progesterone.<sup>95</sup> Receptors are proteins on certain tumor cells that hormones stick to, allowing cancer cells to grow and multiply.

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<sup>91</sup> Laura Stiel, et al., *A Review of Hair Product Use on Breast Cancer Risk in African American Women*, *Cancer Medicine*, 5(3):597-604, March 2016, <https://pubmed.ncbi.nlm.nih.gov/26773423/>

<sup>92</sup> *Hormone Action in the Mammary Gland*, *Cold Spring Harbor Perspectives in Biology*, 2(12), December 2010, <https://pubmed.ncbi.nlm.nih.gov/20739412/> ; Suzanne Fenton & Linda Birnbaum, *Timing of Environmental Exposures as a Critical Element in Breast Cancer Risk*, *The Journal of Clinical Endocrinology & Metabolism*, Volume 100, Issue 9, 3245–3250, Sept., 1, 2015, <https://academic.oup.com/jcem/article/100/9/3245/2836022>

<sup>93</sup> Tsung-Hua Hsieh, et al., *DEHP Mediates Drug Resistance by Directly Targeting AhR in Human Breast Cancer*, *Biomedicine & Pharmacotherapy*, Volume 145, 112400, Nov., 18, 2021, <https://pubmed.ncbi.nlm.nih.gov/34801851/>

<sup>94</sup> Belinda Crobeddu, et al., *Di(2-ethylhexyl) Phthalate (DEHP) Increases Proliferation of Epithelial Breast Cancer Cells Through Progesterone Receptor Dysregulation*, *Environmental Research*, Volume 172, 165-173, June 2019, <https://www.sciencedirect.com/science/article/abs/pii/S0013935119301653?via%3Dihub#bib82>

<sup>95</sup> *Id.*

138. Progesterone is essential for the mammary gland development and has a proliferative effect on epithelial cells.<sup>96</sup> Disruption of the progesterone pathway is known to be a risk factor for breast cancer.<sup>97</sup> Two progesterone receptors are expressed at similar levels in the mammary gland, PR-A and PR-B.<sup>98</sup>

139. The progesterone receptor gene is an estrogen-regulated gene.<sup>99</sup>

140. T-47D cells are cancer cells isolated from breast cancer patients and contain the receptors involved in hormone-dependent breast cancer, estrogen and progesterone receptors.

141. DEHP and its metabolite, MEHP, increase cell proliferation of T-47D cancerous cells.<sup>100</sup> DEHP and MEHP induce progesterone receptor stimuli, resulting in increased progesterone receptor levels and T-47D cell proliferation.<sup>101</sup>

142. Importantly, when progesterone receptors are purposefully inhibited by administration of a pharmacologic antagonist competitor of the progesterone receptor, it decreases the proliferation of T-47D induced by DEHP and MEHP.<sup>102</sup> Thus, exposure to DEHP

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<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> P.A. Mote, et al., *Loss of Co-ordinate Expression of Progesterone Receptors A and B is an Early Event in Breast Carcinogenesis*, Breast Cancer Research and Treatment, 72, 163-172, 2002, <https://link.springer.com/article/10.1023/A:1014820500738#citeas>

<sup>99</sup> Mariana Brandao, et al., *Molecular Biology of Breast Cancer*, Essential Concepts in Molecular Pathology, Progesterone Receptor, 2020, <https://www.sciencedirect.com/topics/medicine-and-dentistry/progesterone-receptor>

<sup>100</sup> Bélinda Crobeddu, et al., *Di(2-ethylhexyl) Phthalate (DEHP) Increases Proliferation of Epithelial Breast Cancer Cells Through Progesterone Receptor Dysregulation*, Environmental Research, Volume 172, 165-173, June 2019, <https://www.sciencedirect.com/science/article/abs/pii/S0013935119301653?via%3Dihub#bib82>

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

and its metabolite increases proliferation of breast cancer cells by activating the progesterone receptor.<sup>103</sup>

143. Estrogen receptor  $\alpha$  drives more than 70 percent of breast cancers.<sup>104</sup>

144. Estrogen receptor-negative breast cancers are a group of tumors with poor prognosis and fewer cancer prevention and treatment strategies compared to estrogen-positive tumors.<sup>105</sup>

145. DEHP metabolites were associated with increased risk of breast cancer as well as uterine leiomyoma due to the EDC's influence on estrogen receptors.<sup>106</sup>

146. Aromatase and estrogen receptor  $\alpha$  are two key proteins for the proliferation of endocrine-responsive and endocrine-resistant breast cancers.<sup>107</sup>

147. Aromatase is an enzyme involved in the conversion of androgen, such as testosterone, to estrogen, such as 17 $\beta$ -estradiol. It is also a very effective therapeutic target for the treatment of endocrine-responsive breast cancer.<sup>108</sup>

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<sup>103</sup> *Id.*

<sup>104</sup> David G. Hicks M.D. & Susan C. Lester MD, PhD, *Hormone Receptors (ER/PR)*, Diagnostic Pathology: Breast, Progesterone Receptor, 2016, <https://www.sciencedirect.com/topics/medicine-and-dentistry/progesterone-receptor>

<sup>105</sup> Thomas C Putti, et al., *Estrogen Receptor-Negative Breast Carcinomas: A Review of Morphology and Immunophenotypical Analysis*, Modern Pathology, 18, 26–35, Aug., 27, 2004, <https://www.nature.com/articles/3800255>

<sup>106</sup> Zhiqin Fu, et al., *Association Between Urinary Phthalate Metabolites and Risk of Breast Cancer and Uterine Leiomyoma*, Reproductive Toxicology, 74: 134-142, Sept., 23, 2017, <https://pubmed.ncbi.nlm.nih.gov/28951174/>

<sup>107</sup> Hei Jason Chan, et al., *Structural and Functional Characterization of Aromatase, Estrogen Receptor, and Their Genes in Endocrine-Responsive and -Resistant Breast Cancer Cells*, The Journal of Steroid Biochemistry and Molecular Biology, Volume 161, 73-83, July 2016, <https://www.sciencedirect.com/science/article/abs/pii/S0960076015300303>

<sup>108</sup> *Id.*

148. Resistance to chemotherapy and hormonal therapy is a major clinical problem in breast cancer medicine, especially for cancer recurrence.

149. Several mechanisms lead to chemotherapy resistance, including drug inactivation. Drug inactivation, refers to metabolic processes that some clinical drugs undergo that decrease their clinical effectiveness.

150. The aryl hydrocarbon receptor (AhR) can form an estrogen receptor  $\alpha$  complex, which activates the receptor's response even in the absence of estrogen.<sup>109</sup>

151. AhR plays an important role in estrogen receptor-negative breast cancer, including the regulation of tumor growth, metastasis<sup>110</sup> and drug resistance.<sup>111</sup>

152. AhR functions as a receptor for hormones EDC phthalates and causes drug inactivation. Overexpression of AhR affects cell proliferation and motility and is associated with a poor prognosis in human cancer.<sup>112</sup>

153. CYP450 is a group of enzymes involved in the estrogen pathway are considered important candidate genes for the susceptibility to breast carcinoma.<sup>113</sup>

154. CYP1A1 is a CYP450 enzyme, examined extensively for its capacity to activate compounds with carcinogenic properties.<sup>114</sup> Continuous exposure to inhalation chemicals and

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<sup>109</sup> *Aromatic Hydrocarbon Receptor*, Comprehensive Toxicology, 2010, <https://www.sciencedirect.com/topics/medicine-and-dentistry/aromatic-hydrocarbon-receptor>.

<sup>110</sup> The spread of cancer cells from the place where they first formed to another part of the body.

<sup>111</sup> Tsung-Hua Hsieh, et al., *DEHP mediates drug resistance by directly targeting AhR in human breast cancer*, Biomedicine & Pharmacotherapy, Volume 145, Jan. 2022, <https://www.sciencedirect.com/science/article/pii/S0753332221011860?via%3Dhub>.

<sup>112</sup> *Id.*

<sup>113</sup> Balraj Mittal, et al., *Chapter 4 – Cytochrome P450 in Chapter Susceptibility and Treatment*, Advances in Clinical Chemistry, Volume 71, 77-139, 2015, <https://www.sciencedirect.com/science/article/abs/pii/S0065242315000517>.

<sup>114</sup> Vasilis Androutsopoulos, et al., *Cytochrome P450 CYP1A1: Wider Roles in Cancer*

environmental carcinogens is assumed to increase the level of CYP1A1 through the AhR.<sup>115</sup> CYP1A1 is a known significant risk factor for breast carcinoma.<sup>116</sup>

155. CYP1B1 is another CYP450 enzyme involved in the metabolism of potential carcinogens.<sup>117</sup> CYP1B1 expression has been shown to be higher in tumors compared to normal tissues, especially in hormone-related cancers including breast, ovary, and prostate tumors.<sup>118</sup>

156. A recent landmark study provided a clinical outcome demonstrating that DEHP directly binds to AhR and induces downstream CYP1A1 and CYP1B1 expression through the genomic AhR pathway. This study thus revealed new evidence by which DEHP and AhR are co-involved in breast cancer drug resistance.<sup>119</sup>

157. This same landmark study also evaluated DEHP metabolites in the urine of approximately 500 breast cancer patients and demonstrated that the metabolite concentration was significantly higher in recurrent breast cancer group compared with non-recurrent patients.<sup>120</sup>

158. Urinary concentrations of mono-ethyl phthalate have been positively associated with breast cancer risk, as well as the number of personal care products used, and the use of hair

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*Progression and Prevention*, BMC Cancer, Volume 9, June 16, 2009.  
<https://bmccancer.biomedcentral.com/articles/10.1186/1471-2407-9-187>.

<sup>115</sup> *Id.*

<sup>116</sup> Tsung-Hua Hsieh, et al., *DEHP mediates drug resistance by directly targeting AhR in human breast cancer*, Biomedicine & Pharmacotherapy, Volume 145, Jan. 2022, <https://www.sciencedirect.com/science/article/pii/S0753332221011860?via%3Dihub>.

<sup>117</sup> Yeo-Jung Kwon, et al., *Enhances Cell Proliferation and Metastasis through Induction of EMT and Activation of Wnt/β-Catenin Signaling via Sp1 Upregulation*, PLoS One, 11(3), March 16, 2016, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151598>

<sup>118</sup> *Id.*

<sup>119</sup> Tsung-Hua Hsieh, et al., *DEHP mediates drug resistance by directly targeting AhR in human breast cancer*, Biomedicine & Pharmacotherapy, Volume 145, Jan. 2022, <https://www.sciencedirect.com/science/article/pii/S0753332221011860?via%3Dihub>.

<sup>120</sup> *Id.*

products, among other personal care products, has been significantly associated with urinary phthalate concentration.

159. Studies have shown positive correlation increased breast cancer risk and adolescent use of hair products that modify hair texture, specifically hair straighteners, perms, and hair dye in black women in the U.S.<sup>121</sup> The frequency of use is associated with a higher risk of premenopausal breast cancer.

160. The use of straighteners in the year prior to baseline was associated with an 18% higher risk of breast cancer.<sup>122</sup> In the Women's Circle of Health Study (WCHS), a case-control study of women in New York, use of relaxers before age 12 and between the ages of 13–19 years was positively, associated with Endocrine Receptive— breast cancer among African-American women; which is consistent with our finding of a suggestive higher risk for Endocrine Receptive— tumors.<sup>123</sup> In the Ghana Breast Health study, use of relaxers was associated with a higher risk overall and risk was elevated regardless of age of first use, including in the youngest age category (<21 years).<sup>124</sup>

161. A recent study, published in the *Carcinogenesis Journal* by Oxford University, concluded that Black women who used lye-based relaxers at least seven times a year for over 15

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<sup>121</sup> Alexander J. White et al., *Adolescent use of hair dyes, straighteners and perms in relation to breast cancer risk*, Int'l J. of Cancer, Vol. 148(9):2255-2263 (2021), <https://pubmed.ncbi.nlm.nih.gov/33252833/>.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

years or more had around a 30 per cent increased risk of developing breast cancer, compared with those who used it less frequently.<sup>125</sup>

162. The US-based researchers examined data from Boston University's Black Women's Health Study, which assessed the medical diagnoses of 50,000 African American women over a 25-year time period plus variable factors that could impact upon their wellbeing. Between 1997 and 2017, some 95 per cent reported using lye-based relaxers and 2,311 developed breast cancers.<sup>126</sup>

**a. Uterine Fibroids**

163. Uterine fibroids are associated with phthalate metabolites found in chemical hair straightening and hair relaxer products.

164. Black women have a higher prevalence of uterine fibroids and tumors than any other ethnicity/racial group.<sup>127</sup>

165. A study looking at over 1 million U.S. women from 2003 to 2014 found that Black women had the highest rate of diagnosed uterine fibroids, with most diagnoses made between the age of 30 – 54 years old.<sup>128</sup>

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<sup>125</sup> Patricia F. Coogan et al., *Hair product use and breast cancer incidence in the Black Women's Health Study*, *Carcinogenesis*, Vol. 42, Issue 7 (July 2021) 924–930, <https://doi.org/10.1093/carcin/bgab041>.

<sup>126</sup> Wise, L. A., Palmer, J. R., Reich, D., Cozier, Y. C., & Rosenberg, L. (2012). Hair relaxer use and risk of uterine leiomyomata in African-American women. *American journal of epidemiology*, 175(5), 432–440. <https://doi.org/10.1093/aje/kwr351>

<sup>127</sup> *Id.*

<sup>128</sup> Yu O, Scholes D, Schulze-Rath R, Grafton J, Hansen K, Reed SD. A US population-based study of uterine fibroid diagnosis incidence, trends, and prevalence: 2005 through 2014. *American Journal of Obstetrics and Gynecology*. 2018;219(6):591.e1-591.e8.

166. Studies show that Black women are three to four times more likely to develop uterine fibroids in their lifetime compared to non-Hispanic white women, and an estimated 70-80% of Black women will develop fibroids over their lifetime.<sup>129</sup>

167. It is estimated that the annual financial impact of uterine fibroids on Black women in the United States is as high as 30 billion dollars, and this number may be an underestimation, as at least one-quarter of women reported losing work due to their disease.<sup>130</sup>

168. Black women are seven (7) times more likely to undergo a myomectomy compared to non-hispanic white women.<sup>131</sup>

169. Uterine fibroids return at higher rates for Black women than white women following surgical treatment, and recurrence can be as high as 59% within 5 years.<sup>132</sup>

170. Given the magnitude of the problem – markedly altered quality of life, the effect on reproductive health, and the costs of health care for this disease – the high prevalence of uterine fibroids in Black women is considered a major public health issue.<sup>133</sup>

171. A 2012 study in the American Journal of Epidemiology associated fibroid risk with the use of hair relaxers. Shirley McDonald of the Hair and Scalp Clinic says, “We now know

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<sup>129</sup> Al-Hendy A, Salama SA. Ethnic distribution of estrogen receptor- $\alpha$  polymorphism is associated with a higher prevalence of uterine leiomyomas in black Americans. *Fertil Steril*. 2006;86(3):686-693. doi:10.1016/j.fertnstert.2006.01.052

<sup>130</sup> Igboeli P, Walker W, McHugh A, Sultan, A, et al. Burden of uterine fibroids: an African perspective, a call for action and opportunity for intervention. *COGO*. 287-294.

<sup>131</sup> Eltoukhi HM, Modi MN, Weston M, Armstrong AY, Stewart EA. The health disparities of uterine fibroid tumors for African American women: a public health issue. *Am J Obstet Gynecol*. 2014;210(3):194-199. doi:10.1016/j.ajog.2013.08.008

<sup>132</sup> Donnez J, Dolmans M. Uterine fibroid management: from the present to the future. *Hum Reprod Update*. 22(06):665–686.

<sup>133</sup> Eltoukhi HM, Modi MN, Weston M, Armstrong AY, Stewart EA. The health disparities of uterine fibroid tumors for African American women: a public health issue. *Am J Obstet Gynecol*. 2014;210(3):194-199. doi:10.1016/j.ajog.2013.08.008

that many hair products contain chemicals that are considered carcinogenic and/or hormone disrupters, leading to increased risk of medical issues such as fibroids (non-cancerous tumors that grow in the uterus, potentially damaging fertility and leading to a host of other complications). Trichologists see lots of conditions that are likely to be triggered by hair products, particularly central centrifugal cicatricial alopecia, a type of permanent hair loss to the crown area of the scalp.

172. More recently, the National Institutes of Health spent eight-years studying over 46,000 women of all races between the ages of 35–74. They were looking for links between chemical hair relaxers and breast cancer. They discovered Black women's breast cancer risk increased risk by 45%. Breast cancer and other reproductive issues, including, fibroid development, are often connected. So this study suggests there are even more reasons to steer clear of chemical hair straighteners and relaxers. Additionally, a new study from the American Journal of Epidemiology further confirms this link. In their group of 23,000 menstruating Black American women, these participants displayed two to three times higher uterine fibroid incidences.

173. Concerns around racial disparities in healthcare linked to chemicals found in cosmetic products are not new; previous studies, as far back as 2012, have also suggested a correlation between chemical relaxer use and uterine fibroids, a condition that disproportionately affects Black women.<sup>134</sup>

174. Hair relaxers are used by millions of black women, possibly exposing them to various chemicals through scalp lesions and burns. In the Black Women's Health Study, the authors assessed hair relaxer use in relation to uterine leiomyomata incidence. In 1997,

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<sup>134</sup>Nadine White, *Campaign urges beauty firms to pull 'toxic' hair products aimed at Black women*, Independent (August 3, 2021), <https://www.independent.co.uk/news/uk/home-news/black-hair-lye-no-more-lyes-b1893747.html>.

participants reported on hair relaxer use (age at first use, frequency, duration, number of burns, and type of formulation). From 1997 to 2009, 23,580 premenopausal women were followed for incident uterine leiomyomata. The incidence of uterine leiomyomata is 2–3 times higher in US black women than in US white women.

175. The Houston Fibroids Clinic in Houston, Texas also highlights the association between hair relaxers and uterine fibroids, stating that black women develop fibroids up to three times as often as women of other races, their fibroids develop earlier in age than other races (often times in their twenties), and are more likely to suffer from anemia due to fibroids. They also have a higher risk for fibroid symptoms, including but not limited to, painful intercourse, severe pelvic pain and heavy periods.<sup>135</sup>

a. **Endometriosis**

176. Endometriosis is associated with phthalate metabolites found in chemical hair straightening and hair relaxer products.

177. For Black women in the U.S., endometriosis is one of the common indications for major gynecological surgery and hysterectomy, and is associated with long hospital stay and high hospital charges.<sup>136</sup>

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<sup>135</sup> <https://houstonfibroids.com/posts/fibroid-symptoms/warning-your-hair-products-could-be-hurting-you/>

<sup>136</sup> M. C. Kyama, *The prevalence of endometriosis among African-American and African-indigenous women*. Gynecologic and obstetric investigation, Vol. 57(1) (2004), <https://pubmed.ncbi.nlm.nih.gov/14974452/>.

178. Phthalate metabolites were related to increased uterine volume, a sign of fibroids on ultrasound, 2018.<sup>137</sup> The sum of DEHP increased volume risk by 33% and the sum of androgenic phthalates increased risk by 27%.<sup>138</sup>

179. The function of the uterine lining, the endometrium, is based on cell-cell interactions under the instruction of steroid hormones.<sup>139</sup> Endometriosis, a common cause of female infertility, occurs almost exclusively in menstruating women of reproductive age and often results from disruptions of this well-balanced cellular equilibrium.<sup>140</sup>

180. It is estimated that 20% to 50% of women being treated for infertility have endometriosis.<sup>141</sup>

181. Endometriosis is a painful, estrogen dependent disease resulting from the growth of endometrial glands and stroma outside the uterus that causes a chronic inflammatory reaction.<sup>142</sup>

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<sup>137</sup> Amir R. Zota et al., *Phthalates exposure and uterine fibroid burden among women undergoing surgical treatment for fibroids: a preliminary study*, *Fertility and sterility*, Vol. 111(1) (2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6321778/>.

<sup>138</sup> *Id.*

<sup>139</sup> L. Cobellis et al., *High plasma concentrations of di-(2-ethylhexyl)-phthalate in women with endometriosis*, *Human Reproduction*, Vol. 18, Issue 7 (2003), 1512–1515, <https://doi.org/10.1093/humrep/deg254>.

<sup>140</sup> D. L. Olive and L. B. Schwartz, *Endometriosis*, *The New England J. of Med.*, Vol. 328(24):1759-69 (1993), <https://pubmed.ncbi.nlm.nih.gov/8110213/>; K. G. Osteen and E. Sierra-Rivera, *Does disruption of immune and endocrine systems by environmental toxins contribute to development of endometriosis?*, *Seminars in Reproductive Endocrinology*, Vol. 15(3):301-8 (1997) <https://pubmed.ncbi.nlm.nih.gov/9383839/>.

<sup>141</sup> *Endometriosis*, World Health Organization (March 31, 2021), <https://www.who.int/news-room/fact-sheets/detail/endometriosis>.

<sup>142</sup> *Id.*

182. During the follicular phase of the menstrual cycle, estrogen, working through estrogen receptor  $\alpha$ <sup>143</sup>, induces growth of the endometrium.<sup>144</sup>

183. The developing fetus and the female reproductive tract are particularly susceptible to EDCs.<sup>145</sup> EDCs are known to interfere with hormonal homeostasis, leading to alteration of estrogen signaling.<sup>146</sup> Specifically, DEHP is known to cause enhanced-estrogenic activity.<sup>147</sup>

184. DEHP is a known estrogen receptor agonist that promotes cell proliferation.<sup>148</sup> An agonist is a chemical that activates a receptor to produce a biological response.

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<sup>143</sup> Ilaria Paterni et al., *Estrogen receptors alpha (ER $\alpha$ ) and beta (ER $\beta$ ): subtype-selective ligands and clinical potential*, *Steroids*, Vol. 90:13-29 (2014), <https://pubmed.ncbi.nlm.nih.gov/24971815/>.

<sup>144</sup> Kun Yu et al., *Estrogen Receptor Function: Impact on the Human Endometrium*, *Frontiers in endocrinology*, Vol. 13 (2022), <https://pubmed.ncbi.nlm.nih.gov/35295981/>.

<sup>145</sup> Saniya Rattan et al., *Di(2-Ethylhexyl) Phthalate Exposure During Prenatal Development Causes Adverse Transgenerational Effects on Female Fertility in Mice*, *Toxicol Sci.*, Vol. 163(2) (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5974785/>.

<sup>146</sup> Xueping Chen et al., *Toxicity and Estrogenic Endocrine Disrupting Activity of Phthalates and Their Mixtures*, *Int'l J. Envtl. Res. and Pub. Health*, 1(3):3156-3168 (2014) <https://doi.org/10.3390/ijerph110303156>; Pablo A, Pérez et al., *The phthalate DEHP modulates the estrogen receptors  $\alpha$  and  $\beta$  increasing lactotroph cell population in female pituitary glands*, *Chemosphere*, Vol. 258:127304 (2020), <https://pubmed.ncbi.nlm.nih.gov/32559490/>.

<sup>147</sup> Chon-Kit Chou et al., *Reduced camptothecin sensitivity of estrogen receptor-positive human breast cancer cells following exposure to di(2-ethylhexyl)phthalate (DEHP) is associated with DNA methylation changes*, *Envtl. Toxicology*, Vol. 3, Issue 4 (2019), <https://doi.org/10.1002/tox.22694>.

<sup>148</sup> Juhye Kim, et al., *Chronic Low-Dose Nonylphenol or Di-(2-ethylhexyl) Phthalate has a Different Estrogen-like Response in Mouse Uterus*, *Development & reproduction*, Vol. 22(4):379-391 (2018), <https://pubmed.ncbi.nlm.nih.gov/30680337/>. (“In the present study, we could see that in vitro treatment with DEHP caused various biological changes of endometrial cells such as increased MMP-2 and -9 activities, increased cell invasion, increased Erk phosphorylation, and increased Pak4 expression. Taken these findings together with our previous in vitro study, we can propose that refluxed endometrial cells could not only survive in the pelvic cavity following retrograde menstruation, but also invade through mesothelial layer, develop vascular supplies, proliferate at ectopic location, and eventually establish endometriotic lesions through various biological alterations caused by exposure to high level of phthalate.”)

185. Numerous studies, spanning over decades, establish that DEHP leads to the development of endometriosis as it is known to increase the viability, activity, proliferation, migration of endometrial stromal cells, a required precondition of endometriosis.<sup>149</sup>

186. Studies have shown that endometriotic women have significantly higher plasma DEHP concentrations than those without the disease.<sup>150</sup> A study that included a sample size of approximately 500 women living in various states observed that DEHP's metabolite, MEHP, a was the only phthalate consistently associated with endometriosis.<sup>151</sup>

**a. Pre-term Delivery**

187. Pre-term child birth is associated with phthalate metabolites found in chemical hair straightening and hair relaxer products.

188. A large population-based Norwegian cohort of hairdressers working 30 or more hours per week revealed an 80% increased risk of low birth weight.

189. Combining 19 cohort studies of female hairdressers or cosmetologists, Henroit in 2015 (J Occupational Health) found small but significant elevations in premature birth (5% increased), small-for-gestational age (24% higher), low birthweight (21% elevated), and miscarriage (19% greater).

190. Several smaller cohort studies have shown associations between hair product use and gestational age. Preston (Environ Health 2021) reported that among 154 women, 7% of

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<sup>149</sup> *Id.*

<sup>150</sup> L. Cobellis et. al, *High plasma concentrations of di-(2-ethylhexyl)-phthalate in women with endometriosis*, Human Reproduction, Vol. 18, Issue 7 (July 1, 2013), 1512–1515, <https://doi.org/10.1093/humrep/deg254>. Concluded that 92.6% of women with endometriosis tested had detectable levels of DEHP and /or its metabolite, MEHP.

<sup>151</sup> Buck Louis G. M. et al., *Bisphenol A and phthalates and endometriosis: the Endometriosis: Natural History, Diagnosis and Outcomes Study*, Fertility and sterility, Vol. 100(1):162-9.e1-2 (2013), <https://pubmed.ncbi.nlm.nih.gov/23579005/>.

whom had preterm deliveries, Black women using daily hair oils delivered a full 8.3 days (statistically significant) earlier than non-users.

191. Women in cosmetology school in North Carolina had twice the risk of miscarriage (Flint 2016) and hairdressers, significantly increased risks of small-for-gestational age babies, malformed babies, and infant mortality.

**A. Ms. Terrell's Use of Hair Relaxing Products**

192. Ms. Terrell was first exposed to EDCs and/or phthalate-based products around 1975, at or around the age of 8, when she began using Defendants' Product.

193. Ms. Terrell used Defendants' Products by applying this to her scalp or by having a professional at a hair salon apply Defendants' Products exactly as instructed by Defendants.

194. Ms. Terrell continued using Defendants' Products from around 1975 approximately 1997.

195. Ms. Terrell would keep the Product on her hair for the time allotted in the instructions.

196. There was never any indication, on the Products packaging or otherwise, that this normal use could and would cause her to develop uterine cancer.

197. Ms. Terrell was diagnosed with uterine cancer on November 11, 2019, at the age of approximately 52 years old.

198. Ms. Terrell underwent a radical hysterectomy at the University of Alabama at Birmingham Hospital, on December 13, 2019.

199. Following this procedure, Ms. Terrell underwent chemotherapy from January 2020 to May 15, 2020.

200. In July of 2020, Ms. Terrell experienced a reoccurrence of cancer, which has metastasized to her liver and omentum, and for which she is currently undergoing treatment.

201. Ms. Terrell has no family history of cancer or uterine cancer.

202. As a result of Defendants' acts and/or omissions, Ms. Terrell suffered extreme pain and suffering, and extreme emotional distress.

**COUNT ONE-STRICK LIABILITY  
(FAILURE TO WARN)**

203. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

204. At all pertinent times, the Defendants were manufacturing, marketing, testing, promoting, selling and/or distributing the Products in the regular course of business.

205. At all pertinent times, Plaintiff used the Products on her scalp area, which is a reasonably foreseeable use.

206. At all pertinent times, Defendants in this action knew or should have known that the use phthalates and other EDC's in hair products significantly increases the risk of diseases including but not limited to cancer, fibroids and/or endometriosis, based upon scientific knowledge dating back for decades.

207. At all pertinent times, including the time of sale and consumption, the Products, when put to the aforementioned reasonably foreseeable use, were in an unreasonably dangerous and defective condition because they failed to contain adequate and proper warnings and/or instructions regarding the increased risk of diseases, including but not limited to cancer, fibroids, and/or endometriosis associated with the use of the Defendant's hair products. Defendants themselves failed to properly and adequately warn and instruct Plaintiff as to the inherent risks of these debilitating and life-altering conditions.

208. Had Plaintiff received a warning that the use of the Products would significantly increase her risk of developing uterine cancer, she would not have used them. As a proximate result of Defendants' design, manufacture, marketing, sale, and distribution of the Products, Plaintiff was injured catastrophically, and was caused severe pain, suffering, disability, impairment, loss of enjoyment of life, loss of care, comfort, and economic damages.

209. The development of uterine cancer by Plaintiff was the direct and proximate result of the unreasonably dangerous and defective condition of the Products at the time of sale and consumption, including their lack of warnings; Plaintiff suffered injuries and damages including, but not limited to, physical and mental pain and suffering, and medical expenses.

210. Defendants' products were defective because they failed to contain warnings and/or instructions and breached express warranties and/or failed to conform to express factual representations upon which Plaintiff justifiably relied in electing to use the Products. The defect or defects made the Products unreasonably dangerous to persons, such as Plaintiff, who could reasonably be expected to use and rely upon such products. As a result, the defect or defects were a producing cause of Plaintiff's injuries and damages.

211. Defendants' products failed to contain, and continue to this day not to contain, adequate warnings and/or instructions regarding the increased risk of diseases, including but not limited to cancer, fibroids and/or endometriosis, with the use of their products by women. Defendants continue to market, advertise, and expressly represent to the general public that it is safe for women to use their relaxer products. These Defendants continue with these marketing and advertising campaigns despite having scientific knowledge that their products contained chemicals that could and would increase women's risk of developing these debilitating and life-altering diseases.

212. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT TWO – STRICT LIABILITY  
(DESIGN AND/OR MANUFACTURING DEFECT)**

213. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

214. Defendants engaged in the design, development, manufacture, marketing, sale, and distribution of the Products in a defective and unreasonably dangerous condition to consumers, including Plaintiff.

215. Defendants caused the Products to enter the stream of commerce and to be sold through various retailers, where Plaintiff purchased the Products.

216. The Products were expected to, and did, reach consumers, including Plaintiff, without change in the condition in which it was manufactured and sold by Defendants and/or otherwise released into the stream of commerce.

217. Plaintiff used the Products in a manner normally intended, recommended, promoted, and marketed by Defendants.

218. Products failed to perform safely when used by Plaintiff in a reasonably foreseeable manner, specifically increasing her of developing uterine fibroids.

219. The propensity of phthalates and other endocrine receptive chemicals to trigger tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk

of diseases, including but not limited to cancer, fibroids, and/or endometriosis, renders the Products unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

220. Importantly, the Products are an inessential cosmetic product that do not treat or cure any serious disease. Further, safer alternatives, including fragrance free products, have been readily available for decades.

221. Defendants have known, or should have known, that the Products are unreasonably dangerous but have continued to design, manufacture, sell, distribute, market, promote, and supply the Products so as to maximize sales and profits at the expense of public health and safety in conscious disregard of the foreseeable harm to the consuming public, including Plaintiff.

222. As a direct and proximate result of Defendants' conduct, including actions, omissions, and misrepresentations, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT THREE – STRICT LIABILITY  
(DESIGN AND/OR MANUFACTURING DEFECT)**

223. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

224. At all relevant times. Defendants engaged in the design, development, manufacture, marketing, sale, and distribution of the Products in a defective and unreasonably dangerous condition to consumers, including Plaintiff.

225. Defendants caused the Products to enter the stream of commerce and to be sold through various retailers, where Plaintiff purchased the Products.

226. The Products were expected to, and did, reach consumers, including Plaintiff, without change in the condition in which it was manufactured and sold by Defendants and/or otherwise released into the stream of commerce.

227. Plaintiff used the Products in a manner normally intended, recommended, promoted, and marketed by Defendants.

228. Products failed to perform safely when used by Plaintiff in a reasonably foreseeable manner, specifically increasing her of developing uterine cancer.

229. The propensity of phthalates and other endocrine receptive chemicals to trigger tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of diseases including but not limited to cancer, fibroids, and/or endometriosis, renders the Products unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

230. Importantly, the Products are an inessential cosmetic product that do not treat or cure any serious disease. Further, safer alternatives, including fragrance free products, have been readily available for decades.

231. Defendants knew, or by the exercise of reasonably care should have known, that the Products are unreasonably dangerous but have continued to design, manufacture, sell, distribute, market, promote, and supply the Products to maximize sales and profits at the expense of public health and safety in conscious disregard of the foreseeable harm to the consuming public, including Plaintiff.

232. Defendants owed a duty to all reasonably foreseeable users to design a safe product.

233. Defendants breached their duty by failing to use reasonable care in the design and/or manufacturing of their Products because the Products were unreasonably dangerous in that they increase the risks of tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of diseases including but not limited to cancer, fibroids, and/or endometriosis, renders the Products unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

234. Defendants also breached their duty by failing to use reasonable care by failing to use cost-effective, reasonably feasible alternative designs in the design and/or manufacturing of their Products.

235. A reasonable company under the same or similar circumstances would have designed a safer product.

236. As a direct and proximate result of Defendants' conduct, including actions, omissions, and misrepresentations, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT FOUR-PRODUCTS LIABILITY  
(NEGLIGENCE FAILURE TO WARN)**

237. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

238. At all relevant times. Defendants engaged in the design, development, manufacture, marketing, sale, and distribution of the Products in a defective and unreasonably dangerous condition to consumers, including Plaintiff.

239. Defendants knew, or by the exercise of reasonable care, should have known use of their Products was dangerous, harmful, and injurious when used by Plaintiff in a reasonably foreseeable manner.

240. Defendants knew, or by the exercise of reasonable care, should have known ordinary consumers such as Plaintiff would not have realized the potential risks and dangers of their Products, and that Products were likely to increase the risks of tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of cancer, fibroids, and/or endometriosis, when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

241. Defendants owed a duty to all reasonably foreseeable consumers to disclose the risks associated with the use of their Products.

242. Defendants breached their duty of care by failing to use reasonable care in providing adequate warnings on their Products, including that Products were likely to increase the risks of tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of diseases including but not limited to cancer, fibroids, and/or endometriosis, when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

243. The failure of Defendants to adequately warn about their defective products, and their efforts to misleadingly advertise through conventional avenues, created a danger of injuries

described herein that were reasonably foreseeable at the time of design and/or manufacture and distribution.

244. At all relevant times, Defendants could have provided adequate warnings and instructions to prevent the harms and injuries set forth herein, such as providing full and accurate information about the products in advertising.

245. A reasonable company under the same or similar circumstances would have warned and instructed of the dangers.

246. Plaintiff was injured as a direct and proximate result of Defendants' failure to warn and instruct because she would not have used the Products had she received adequate warnings and instructions that the Products could increase the risks of tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of diseases including but not limited to cancer, fibroids, and/or endometriosis when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

247. Defendants' lack of adequate and sufficient warnings and instructions, and their inadequate and misleading advertising, was a substantial contributing factor in causing harm to Plaintiff.

248. As a direct and proximate result of Defendants' conduct, including actions, omissions, and misrepresentations, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT FIVE – NEGLIGENCE  
(DESIGN AND/OR MANUFACTURING DEFECT)**

249. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

250. At all relevant times. Defendants engaged in the design, development, manufacture, marketing, sale, and distribution of the Products in a defective and unreasonably dangerous condition to consumers, including Plaintiff.

251. Defendants caused the Products to enter the stream of commerce and to be sold through various retailers, where Plaintiff purchased the Products.

252. The Products were expected to, and did, reach consumers, including Plaintiff, without change in the condition in which it was manufactured and sold by Defendants and/or otherwise released into the stream of commerce.

253. Plaintiff used the Products in a manner normally intended, recommended, promoted, and marketed by Defendants.

254. Products failed to perform safely when used by Plaintiff in a reasonably foreseeable manner, specifically increasing her of developing uterine cancer.

255. The propensity of phthalates and other endocrine receptive chemicals to trigger tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of diseases including but not limited to cancer, fibroids and/or endometriosis, renders the Products unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

256. Importantly, the Products are an inessential cosmetic product that do not treat or cure any serious disease. Further, safer alternatives, including fragrance free products, have been readily available for decades.

257. Defendants knew, or by the exercise of reasonable care should have known, that the Products are unreasonably dangerous but have continued to design, manufacture, sell, distribute, market, promote, and supply the Products to maximize sales and profits at the expense of public health and safety in conscious disregard of the foreseeable harm to the consuming public, including Plaintiff.

258. Defendants owed a duty to all reasonably foreseeable users to design a safe product.

259. Defendants breached their duty by failing to use reasonable care in the design and/or manufacturing of their Products because the Products were unreasonably dangerous in that they increase the risks of tumors and cancerous growths in premenopausal women, thereby substantially increasing the risk of diseases including but not limited to cancer, fibroids, and/or endometriosis, renders the Products unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

260. Defendants also breached their duty by failing to use reasonable care by failing to use cost-effective, reasonably feasible alternative designs in the design and/or manufacturing of their Products.

261. A reasonable company under the same or similar circumstances would have designed a safer product.

262. As a direct and proximate result of Defendants' conduct, including actions, omissions, and misrepresentations, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and

- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT SIX-NEGLIGENCE  
(NEGLIGENCE AND/OR GROSS NEGLIGENCE)**

263. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

264. The Defendants' negligence and extreme carelessness includes, but is not limited to, their marketing, designing, manufacturing, producing, supplying, inspecting, testing, selling and/or distributing the Products in one or more of the following respects:

- a. In failing to warn Plaintiff of the hazards associated with the use of the Products;
- b. In failing to properly test their products to determine adequacy and effectiveness or safety measures, if any, prior to releasing the Products for consumer use;
- c. In failing to properly test their products to determine the increased risk of diseases such as uterine cancer, breast cancer, uterine fibroids and/or endometriosis during the normal and/or intended use of the Products;
- d. In failing to inform ultimate users, such as Plaintiff as to the safe and proper methods of handling and using the Products;
- e. In failing to remove the Products from the market when Defendants knew or should have known the Products were defective;
- f. In failing to instruct the ultimate users, such as Plaintiff, as to the methods for reducing the type of exposure to the Products which caused increased risk of diseases such as uterine cancer, breast cancer, uterine fibroids, and/or endometriosis;

- g. In failing to inform the public in general and Plaintiff in particular of the known dangers of using the Products;
- h. In failing to advise users how to prevent or reduce exposure that caused increased risk for diseases such as uterine cancer, breast cancer, uterine fibroids and/or endometriosis;
- i. In marketing and labeling the Products as safe for all uses despite knowledge to the contrary;
- j. In failing to act like a reasonably prudent company under similar circumstances.

Each and all of these acts and omissions, taken singularly or in combination, were a proximate cause of the injuries and damages sustained by Plaintiff.

265. At all pertinent times, the Defendants knew or should have known that the Products were unreasonably dangerous and defective when put to their reasonably anticipated use.

266. Defendants' acts and/or omissions constitute gross negligence because they constitute a total lack of care and an extreme departure from what a reasonably careful company would do in the same situation to prevent foreseeable harm to Plaintiff.

267. Defendants acted and/or failed to act willfully, and with conscious and reckless disregard for the rights and interests of Plaintiff, and their acts and omissions had a great probability of causing significant harm and in fact resulted in such harm to Plaintiff.

268. Plaintiff was injured as a direct and proximate result of negligence and/or gross negligence as described herein.

269. Defendants' negligence and/or gross negligence were a substantial factor in causing and/or contributing to Plaintiff's harms.

270. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, and loss of enjoyment and impairment of quality of life, past and future.

**COUNT SEVEN-NEGLIGENCE  
(NEGLIGENT MISREPRESENTATION)**

271. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

272. Defendants had a duty to accurately and truthfully represent to consumers, Plaintiff, and the public, that the Products had been tested and found to be safe and effective for use. The representations made by Defendants, in fact, were false.

273. Defendants failed to exercise ordinary care in the representations concerning the Products while they were involved in their manufacture, sale, testing, quality assurance, quality control, and distribution in interstate commerce, because Defendants negligently misrepresented the Products' high risk of unreasonable, dangerous, adverse side effects.

274. Defendants breached their duty in representing that the Products have no serious side effects.

275. As a foreseeable, direct and proximate result of the negligent misrepresentation of Defendants as set forth herein, Defendants knew, and had reason to know, that the Products had been insufficiently tested, or had not been tested at all, and that they lacked adequate and accurate warnings, and that it created a high risk, and/or higher than acceptable risk, and/or higher than

reported and represented risk, of adverse side effects, including, but not limited to, uterine cancer, breast cancer, uterine fibroids and/or endometriosis.

276. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT EIGHT – VIOLATION OF ALABAMA DECEPTIVE PRACTICES ACT  
(Ala. Code § 8-19-1 *et seq.*)**

277. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

278. Plaintiff purchased and used Defendants' Products primarily for personal use and thereby suffered ascertainable losses as a result of Defendants' actions in violation of the consumer protection laws.

279. Had Defendants not engaged in the deceptive conduct described herein, Plaintiff would not have purchased and/or paid for Defendants' product, and would not have incurred related injuries and damages.

280. Defendants engaged in wrongful conduct while at the same time obtaining, under false pretenses, monetary gain from Plaintiff for the Products that would not have been paid had Defendants not engaged in unfair and deceptive conduct.

281. Defendants engaged in unfair methods of competition and deceptive acts or practices that were proscribed by law, including the following:

- a. Representing that goods or services have characteristics, ingredients, uses, benefits, or quantities that they do not have;
- b. Advertising goods or services with the intent not to sell them as advertised; and
- c. Engaging in fraudulent or deceptive conduct that creates a likelihood of confusion or misunderstanding.

282. Defendants intended for Plaintiff to rely on their representations and advertisements regarding the Products in order to achieve monetary gain from Plaintiff through her purchase of the Products.

283. Plaintiff was injured by the cumulative and indivisible nature of Defendants' conduct. The cumulative effect of Defendants' conduct directed at Plaintiff and other consumers was to create demand for and sell the Products. Each aspect of Defendants' conduct combined to artificially create sales of the product.

284. Defendants have a statutory duty to refrain from unfair or deceptive acts or trade practices in the design, labeling, development, manufacture, promotion, and sale of the Products.

285. Had Defendants not engaged in the deceptive conduct described above, Plaintiff would not have purchased and/or paid for the product, and would not have incurred related injuries and damages.

286. Defendants' intentional, deceptive, unconscionable, and fraudulent representations and material omissions to Plaintiff, physicians, and consumers, constituted unfair and deceptive acts and trade practices in violation of the Alabama Deceptive Trade Practices Act.

287. Defendants' actions, as complained of herein, constitute unfair competition or unfair, unconscionable, deceptive or fraudulent acts, or trade practices in violation of the Alabama consumer protection statute.

288. Defendants have engaged in unfair competition or unfair or deceptive acts or trade practices, or have made false representations in violation of the Alabama Deceptive Trade Practices Act.

289. Under these statutes, Defendants are the suppliers, manufacturers, advertisers, and sellers, who are subject to liability under such legislation for unfair, deceptive, fraudulent and unconscionable consumer sales practices.

290. Defendants violated the statutes that were enacted in these states to protect consumers against unfair, deceptive, fraudulent and unconscionable trade and business practices and false advertising, by knowingly and falsely representing that Defendants' the Products were fit to be used for the purpose for which it was intended, when in fact it was defective and dangerous, and by other acts alleged herein. These representations were made in marketing and promotional materials.

291. The actions and omissions of Defendants alleged herein are uncured or incurable deceptive acts under the statutes enacted in the states to protect consumers against unfair, deceptive, fraudulent and unconscionable trade and business practices and false advertising.

292. Defendants had actual knowledge of the defective and dangerous condition of Defendants' product and failed to take any action to cure such defective and dangerous conditions.

293. Plaintiff relied upon Defendants' misrepresentations and omissions in determining which product to use.

294. Defendants' deceptive, unconscionable or fraudulent representations and material omissions to Plaintiff and other consumers constituted deceptive acts and practices.

295. By reason of the unlawful acts engaged in by Defendants, and as a direct and proximate result thereof, Plaintiff, suffered ascertainable losses and damages.

296. As a direct and proximate result of Defendants' violations of the State of Alabama's consumer protection laws, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

**COUNT NINE – VIOLATION OF THE NEW YORK STATE CONSUMER PROTECTION LAW  
(N.Y. Gen. Bus. Law § 349)**

297. Plaintiffs repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

298. The New York Consumer Protection Law, N.Y. Gen. Bus. Law § 349, states that, "Deceptive acts or practices in the conduct of any business, trade or commerce or in the furnishing of any service in this state are hereby declared unlawful."

299. By the conduct described in detail above and incorporated herein, Defendant engaged in unfair or deceptive acts in violation of the New York Consumer Protection Law.

300. Plaintiff purchased and used Defendants' Products primarily for personal use and thereby suffered ascertainable losses as a result of Defendants' actions in violation of the consumer protection laws.

301. Had Defendants not engaged in the deceptive conduct described herein, Plaintiff would not have purchased and/or paid for Defendants' product, and would not have incurred related injuries and damages.

302. Defendants engaged in wrongful conduct while at the same time obtaining, under false pretenses, monetary gain from Plaintiff for the Products that would not have been paid had Defendants not engaged in unfair and deceptive conduct.

303. Defendants engaged in unfair methods of competition and deceptive acts or practices that were proscribed by law, including the following:

- a. Representing that goods or services have characteristics, ingredients, uses, benefits, or quantities that they do not have;
- b. Advertising goods or services with the intent not to sell them as advertised; and
- c. Engaging in fraudulent or deceptive conduct that creates a likelihood of confusion or misunderstanding.

304. Defendants intended for Plaintiff to rely on their representations and advertisements regarding the Products in order to achieve monetary gain from Plaintiff through her purchase of the Products.

305. Plaintiff was injured by the cumulative and indivisible nature of Defendants' conduct. The cumulative effect of Defendants' conduct directed at Plaintiff and other consumers was to create demand for and sell the Products. Each aspect of Defendants' conduct combined to artificially create sales of the product.

306. Defendants have a statutory duty to refrain from unfair or deceptive acts or trade practices in the design, labeling, development, manufacture, promotion, and sale of the Products.

307. Had Defendants not engaged in the deceptive conduct described above, Plaintiff would not have purchased and/or paid for the product, and would not have incurred related injuries and damages.

308. Defendants' intentional, deceptive, unconscionable, and fraudulent representations and material omissions to Plaintiff, physicians, and consumers, constituted unfair and deceptive acts and trade practices in violation of the New York Consumer Protection Law.

309. Defendants' actions, as complained of herein, constitute unfair competition or unfair, unconscionable, deceptive or fraudulent acts, or trade practices in violation of the New York Consumer Protection Law.

310. Defendants have engaged in unfair competition or unfair or deceptive acts or trade practices, or have made false representations in violation of the New York Consumer Protection Law.

311. Under these statutes, Defendants are the suppliers, manufacturers, advertisers, and sellers, who are subject to liability under such legislation for unfair, deceptive, fraudulent and unconscionable consumer sales practices.

312. Defendants violated the statutes that were enacted in these states to protect consumers against unfair, deceptive, fraudulent and unconscionable trade and business practices and false advertising, by knowingly and falsely representing that Defendants' the Products were fit to be used for the purpose for which it was intended, when in fact it was defective and dangerous, and by other acts alleged herein. These representations were made in marketing and promotional materials.

313. The actions and omissions of Defendants alleged herein are uncured or incurable deceptive acts under the statutes enacted in the states to protect consumers against unfair, deceptive, fraudulent and unconscionable trade and business practices and false advertising.

314. Defendants had actual knowledge of the defective and dangerous condition of Defendants' product and failed to take any action to cure such defective and dangerous conditions.

315. Plaintiff relied upon Defendants' misrepresentations and omissions in determining which product to use.

316. Defendants' deceptive, unconscionable or fraudulent representations and material omissions to Plaintiff and other consumers constituted deceptive acts and practices.

317. By reason of the unlawful acts engaged in by Defendants, and as a direct and proximate result thereof, Plaintiff, suffered ascertainable losses and damages.

318. As a direct and proximate result of Defendants' violations of the State of New York's consumer protection laws, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

#### **COUNT TEN-FRAUD**

319. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

320. Defendants, who engaged in the development, manufacture, marketing, sale and distribution of cosmetic and personal care products, including the Products, owed a duty to provide accurate and complete information regarding said products.

321. Defendants fraudulently misrepresented the use of the Products as safe and effective, specifically:

- a. Defendant Strength of Nature, LLC's Soft and Beautiful Products are intentionally labeled as "Botanicals" and with "Natural" ingredients that are "Ultra Nourishing," including but not limited to using "Natural Plant Oils and Butters;"

322. A recent article was published on October 4, 2022 on MSN and other online news outlets, titled "The Relaxer Box Girls: Where Are They Now ", which revealed that many of the young black girls featured on relaxer boxes and in relaxer ads in the 80s, 90s, and 2000s, never actually got their hair relaxed. Instead, they used other straightening tools and styling products to achieve the look of having the relaxer, without having exposed themselves to the dangerous chemicals within relaxers. Many of them are wearing natural hairstyles today.<sup>152</sup>

323. Defendants knew that these misrepresentations and/or omissions were material, and that they were false, incomplete, misleading, deceptive and deceitful when they were made.

324. Defendants made the misrepresentations and/or omissions for the purpose of deceiving and defrauding consumers, including Plaintiff, with the intention of having them act and rely on such misrepresentations and/or omissions.

325. Plaintiff relied, with reasonable justification, on the misrepresentations by Defendants, which induced her to purchase and use the Products on a regular basis for decades.

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<sup>152</sup><https://www.msn.com/en-us/lifestyle/lifestyle-buzz/the-relaxer-box-girls-where-are-they-now/ar-AA12Bpxn>

326. Defendants profited, significantly, from their unethical and illegal conduct that fraudulently induced Plaintiff, and millions of other consumers, to purchase a dangerous and defective product.

327. Defendants' actions, and Plaintiff's justifiable reliance thereon, were substantial contributing factors in causing injury and incurrence of substantial damages.

328. As a foreseeable, direct, and proximate result of the aforementioned fraudulent misrepresentations by Defendants, Plaintiff sustained the following damages:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

#### **COUNT ELEVEN – FRAUDULENT CONCEALMENT**

329. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

330. Defendants owed consumers, including Plaintiff, a duty to fully and accurately disclose all material facts regarding the Products, not to conceal material defects related thereto, not to place these defective products into the stream of commerce, and to fully and accurately label product packaging. To the contrary, Defendants explicitly and/or implicitly represented that the Products were safe and effective.

331. Defendants actively and intentionally concealed and/or suppressed material facts, in whole or in part, to induce consumers, including Plaintiff, to purchase and use the Products and did so at her expense. Specifically:

a. Defendants have been aware of the positive association between DEHP used in their products and an increased risk of cancer demonstrated by epidemiology studies since at least 2015 that exposure to the phthalates in their products enhance invasive and proliferative activities of endometrial cells.

332. Recent studies have established a statistically significant correlation between Defendants' Products and uterine cancer.

333. Defendants made the misrepresentations and/or omissions for the purpose of deceiving and defrauding Plaintiff and with the intention of having her act and rely on such misrepresentations and/or omissions.

334. Defendants knew that their concealments, misrepresentations and/or omissions were material, and that they were false, incomplete, misleading, deceptive, and deceitful when they were made. Alternatively, Defendants concealed information, and/or made the representations with such reckless disregard for the truth that knowledge of the falsity can be imputed to them.

335. Defendants profited, significantly, from their unethical and illegal conduct that caused Plaintiff to purchase and habitually use a dangerous and defective product.

336. Defendants' actions and representations, and Plaintiff's justifiable reliance thereon, were substantial contributing factors in causing injury and incurrence of substantial damages.

337. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering,

emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

### **COUNT TWELVE BREACH OF EXPRESS WARRANTY**

338. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

339. The Defendants expressly warranted, through direct-to-consumer marketing, advertisements, and labels, that the Products were safe and effective for reasonably anticipated users.

340. The Products did not conform to these express representations because they cause serious injury when used in the manner directed by Defendants in the form of cancer, including, but not limited to, uterine cancer.

341. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

342. Economic losses including medical care and lost earnings; and

343. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

### **COUNT THIRTEEN – BREACH OF IMPLIED WARRANTIES**

344. Plaintiff incorporates by reference each of the preceding paragraphs as if fully set forth herein.

345. At the time the Defendants manufactured, marketed, labeled, promoted, distributed and/or sold the Products, the Defendants knew of the uses for which the Products were

intended and impliedly warranted the Products to be of merchantable quality and safe for such use.

346. Defendants breached their implied warranties of the Products sold to Plaintiff because they were not fit for their common, ordinary, and intended uses.

347. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

#### **COUNT FOURTEEN – NEGELIGENT FAILURE TO RECALL**

348. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

349. At all relevant times, Defendants designed, developed, managed, operated, inspected, tested (or not), marketed, advertised, promoted, disseminated, made publicly available, and/or benefited from the Products and, therefore, owed a duty of reasonable care to avoid causing harm to those who used the Products, such as Plaintiff.

350. Defendants knew or should have known through the exercise of reasonable care, the risks to consumers posed by the Products.

351. Defendants knew or, by the exercise of reasonable care, should have known use of the Products was harmful and had the potential to increase the risks of tumors, fibroids, endometriosis and cancerous growths in premenopausal women, and as such, renders the Products

unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

352. Defendants owed a duty to the users of the Products, including Plaintiff, to exercise reasonable care in conducting their business to properly and reasonably design, research, develop, manufacture, produce, process, assemble, inspect, supply, distribute, deliver, broker, market, warn, maintain, repair, modify, recall, retrofit, engineer, test, recommend, advertise, and/or make available the Products.

353. Defendants also owed a continuing duty to Plaintiff to remove, recall, or retrofit the unsafe and/or defective platforms across the United States (including in Plaintiff's state).

354. As discussed, Defendants knew or reasonably should have known that the Products were dangerous and not safe for use.

355. Defendants knew or, in the exercise of reasonable and ordinary care, should have known that the Products were defective and unsafe for Plaintiff, who is a person likely to use the Products for the purpose and in the manner for which the Products were intended to be used and for purposes reasonably foreseeable to Defendants.

356. However, at all times, Defendants negligently breached said duties and unreasonably and negligently allowed the Products to be used by Plaintiff without proper recall or retrofit or warning.

357. Defendants have also not made any reasonable effort to remove and/or retrofit the serious safety risk posed by the Products to consumers.

358. In failing to properly recall and/or retrofit the Products, or even warn of the serious safety risks the platforms pose to consumers and the public, Defendants have failed to act as a

reasonable manufacturer, designer, or distributor would under the same or similar circumstances and failed to exercise reasonable care.

359. Plaintiff was injured as a direct and proximate result of the negligent conduct as described herein.

360. Plaintiff sustained the following damages as a foreseeable, direct, and proximate result of Defendants' acts and/or omissions:

- a. Economic losses including medical care and lost earnings; and
- b. Noneconomic losses including physical and mental pain and suffering, emotional distress, inconvenience, loss of enjoyment and impairment of quality of life, past and future.

#### **COUNT FIFTEEN – MEDICAL MONITORING**

361. Plaintiff repeats and realleges the allegations in Paragraphs 1-202 above, as if fully set forth herein.

362. At all relevant times, Defendants designed, developed, managed, operated, inspected, tested (or not), marketed, advertised, promoted, disseminated, made publicly available, and/or benefited from the Products and, therefore, owed a duty of reasonable care to avoid causing harm to those who used the Products, such as Plaintiff.

363. Defendants knew or should have known through the exercise of reasonable care, the risks to consumers posed by the Products.

364. Defendants knew or, by the exercise of reasonable care, should have known use of the Products was harmful and had the potential to increase the risks of tumors, fibroids, endometriosis and cancerous growths in the breast and uterus in premenopausal women, thereby substantially increasing the risk of these conditions, and as such, renders the Products

unreasonably dangerous when used in the manner it was intended and to an extent beyond that would be contemplated by the ordinary consumer.

365. Defendants owed a duty to the users of the Products, including Plaintiff, to exercise reasonable care in conducting their business to properly and reasonably design, research, develop, manufacture, produce, process, assemble, inspect, supply, distribute, deliver, broker, market, warn, maintain, repair, modify, recall, retrofit, engineer, test, recommend, advertise, and/or make available the Products.

366. Defendants also owed a continuing duty to Plaintiff to remove, recall, or retrofit the unsafe and/or defective platforms across the United States (including in Plaintiff's state).

367. As discussed, Defendants knew or reasonably should have known that the Products were dangerous and not safe for use.

368. As a direct and proximate result of Defendants' conduct, Plaintiff has developed mental and physical health issues that will require life-long monitoring treatment.

369. As a direct and proximate result of Defendants' conduct, Plaintiff has a significantly increased risk of developing a serious latent disease and/or injury, suffering further injury at an unknown date in the future.

370. Monitoring procedures exist that makes the early detection and prevention of the above EDC-related and/or induced diseases and mental health issues possible. Many of the above physical and mental issues can lead to other physical and mental health injuries long-term that can be detected and prevented by existing medical and psychological testing and treatment.

371. These procedures are different from that normally recommended in the absence of the exposure. These monitoring procedures include non-routine surveillance studies, laboratory

testing, and physical examinations, and would be reasonably necessary according to contemporary scientific principles.

372. The injuries Defendants' Products cause on the human body has already been inflicted in its users, such as Plaintiff, but the full extent of the injury will not manifest until later in Plaintiff's life. Thus, because of Defendants' conduct, it is reasonably necessary that Plaintiff be placed under periodic screening and/or diagnostic testing beyond that normally recommended in the absence of the issues Plaintiff has suffered due to use of these Products.

373. Plaintiff demands judgment against Defendants for medical monitoring damages to diagnose chemical relaxer induced injuries at an earlier date to allow for timely treatment and prevention of exacerbation of injuries, together with interest, costs of suit, attorneys' fees, and all such other relief as the Court deems proper.

#### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff demands judgment against Defendants on each of the above-referenced claims and causes of action, and as follows:

1. Awarding compensatory damages in excess of \$75,000, including, but not limited to pain, suffering, emotional distress, loss of enjoyment of life, and other non-economic damages in an amount to be determined at trial of this action;
2. Awarding economic damages in the form of medical expenses, out of pocket expenses, lost earnings, and other economic damages in an amount to be determined at trial of this action;
3. Punitive and/or exemplary damages for the wanton, willful, fraudulent, reckless acts of the Defendants who demonstrated a complete disregard and reckless indifference for the

safety and welfare of the general public and Plaintiff in an amount sufficient to punish Defendants and deter future similar conduct;

4. Prejudgment interest;
5. Postjudgment interest;
6. Awarding Plaintiff's reasonable attorneys' fees;
7. Awarding Plaintiff the costs of these proceedings; and
8. Such other and further relief as this Court deems just and proper.

**JURY DEMAND**

Plaintiff hereby demands a trial by jury.

Dated: October 31, 2022

*/s/ Adam J. Levitt*  
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